

AMERICAN BEE JOURNAL

DECEMBER, 1918



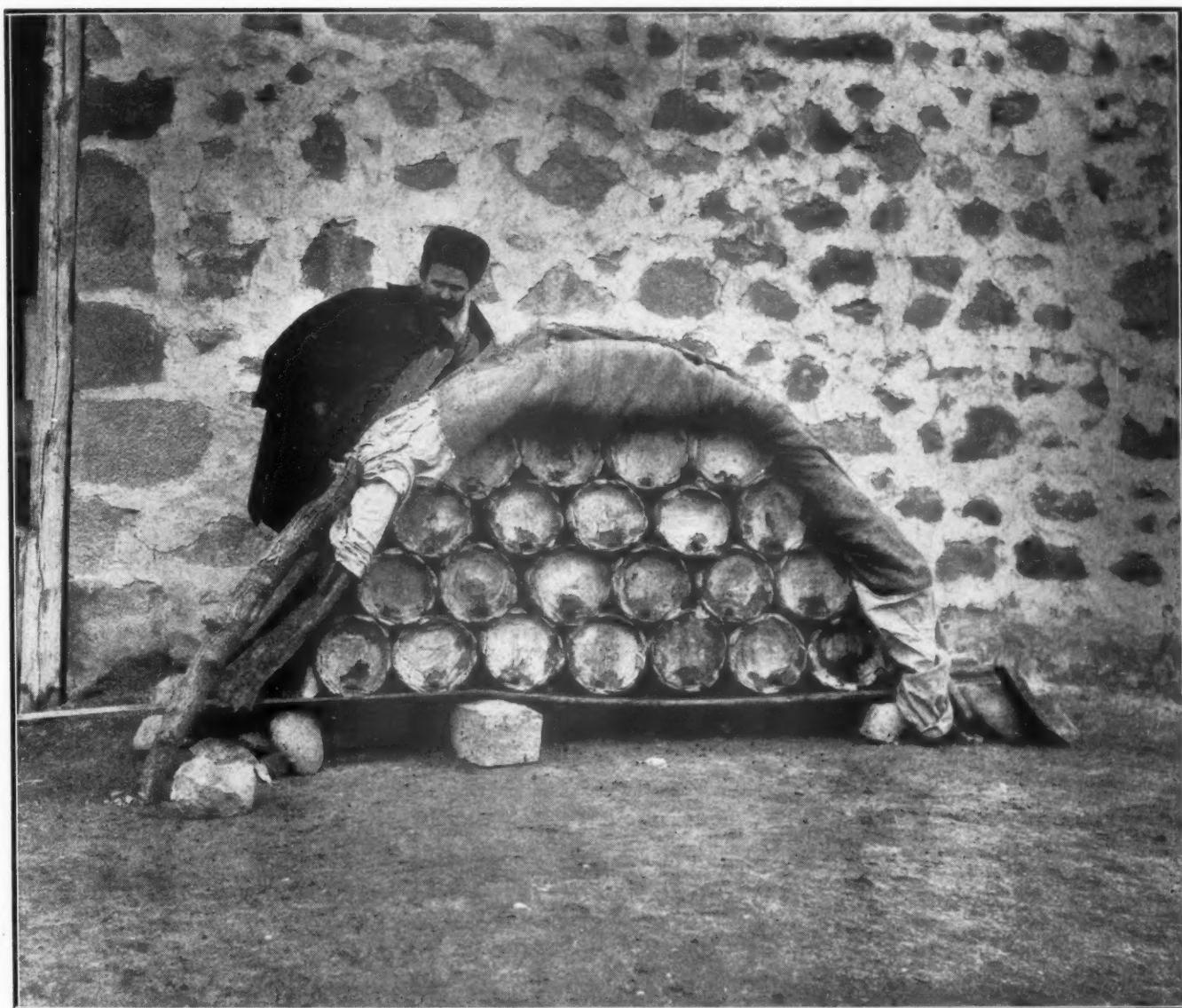
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Bingham Smokers have been improved from time to time, are now the finest on the market, and for over forty years have been the standard in this and many foreign countries. For sale by all dealers in bee supplies, or direct from the manufacturers.

	Size of Stove	Weight	Retail
Smoke Engine	4 x7-inch	2 1/4 lbs.	\$1.50
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Two above in copper, extra each			1.00
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Lyle, Minn., June 21, 1917.

A. G. Woodman Co.

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Lyle, Minn., July 5, 1917.

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K. H. VOLSTAD



Many of the most extensive honey producers insist on the Genuine Bingham Knives. Mr. N. E. France, of Platteville, Wis., gave us a fine unsolicited testimonial on the steam-heated Bingham Knife, too long for this space.

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PREPARE IN THE RIGHT WAY BY ORDERING EARLY

This will save time, money and honey, and will be gratifying to your ambition to help your country and fellow citizens. Let them have a good quality of honey and lots of it. **You Can Do It.** Get the goods that you are going to need and have them ready for the beginning of the season. To make this more of a saving to you, we are giving an **early order cash discount of 10% for shipment prior to December 1, 1918.**

Use only the goods that are tested and known to be the best and most reliable; therefore, **"falcon"** goods will give the best results. Our goods are made by experienced and interested workers. This is the reason we are known in every land.

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Where the Best Beehives Come From

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	1	6	12	1	6	12	1	6	12
Untested.....	\$1.50	\$ 7.50	\$13.50	\$1.25	\$ 6.50	\$11.50	\$1.00	\$ 5.00	\$ 9.00
Select Untested.....	2.00	8.50	15.00	1.50	7.50	13.50	1.25	6.50	12.00
Tested.....	2.50	13.50	25.00	2.00	10.50	18.50	1.75	9.00	17.00
Select Tested.....	3.00	16.50	30.00	2.75	15.00	27.00	2.50	13.50	25.00

Capacity of yard, 5000 queens a year

Select queen tested for breeding, \$5

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American Bee Journal, Hamilton, Ill.

What Would YOUR Bees Do?

*WILL YOU GIVE THEM THE
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Farmington, New Mexico,
October 24, 1918.

Dadant & Sons,
Hamilton, Illinois.

Gentlemen: Would be pleased if you would quote me your prices on working wax into foundation in 100# lots or more: Medium Brood, Light Brood, Thin and Extra Thin Surplus.

I have used considerable of your foundation and tested it with other makes, and I don't know why, but my bees will work on yours first. I patched a lot of drone combs last season and used your foundation along with some others, and yours would make lots the best job, and it is a fact that my bees would draw yours out and leave the other or gnaw at it, while I could see no difference to look at it.

A. N. NORTON.

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Ordering Standard Goods, so as to enable manufacturing plants to increase production

BY

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Get busy, now, and make up a list of your requirements. Take advantage of prevailing transportation conditions -- later on it may be more difficult to secure prompt shipment. Remember, every pound of Honey produced will release its equivalent of Butter or Sugar for other purposes of food.

INCREASE YOUR HONEY PRODUCTION

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VOL. LVIII—NO. 12

HAMILTON, ILL., DECEMBER, 1918

MONTHLY, \$1.00 A YEAR

THE COTTON BELT OF TEXAS

Notes About Beekeeping Conditions in the Black Land Region of Texas,
Where Cotton is the Principal Source of Surplus Honey

By Frank C. Pellett

WHEN we speak of the cotton belt, we naturally think of that large area where cotton is grown as a staple crop. In this article, however, we mean the smaller area where cotton is the principal source of surplus honey, which covers quite a different section of the map of Texas. In general, this area approximates the extent of the black land prairie, commonly called the "black waxy" lands. But it extends beyond that belt to some extent, as cotton yields honey freely on other heavy soils. Beginning near the northeast corner of the State, a line running southwestward to the Brazos river would apparently mark the approximate eastern boundary of this belt. As mentioned in previous articles, the southern boundary is very definitely marked by the escarpment running east and west, between San Antonio and New Braunfels. Since we have in mind a special article on the behavior of the cotton plant, further consideration of that subject will be deferred for the present.

Within this particular area we find the highest developed agriculture of the State. The soils are rich and the climate mild. Cotton, corn, alfalfa, small grains and truck crops are all profitably grown. In few places do we find beekeeping highly specialized along with prosperous general agriculture, and Texas is no exception. Here and there we find a specialist who is producing honey on a large scale, but they are widely scattered. Nine in every ten beekeepers to be met in this area are enthusiasts who earn their livelihood at some other occupation. This does not necessarily indicate that honey production is unprofitable. In fact, it is probable that honey production is more dependable in some parts of this belt

than in Southwest Texas, where beekeeping is a much more important industry. For some unaccountable reason, we find comparatively few commercial beekeepers in any rich land area where general farming is highly profitable. There are a few in this part of Texas who are conspicuously successful.

Beemen of the Cotton Belt

Just at this point in the story, the writer feels very much like expressing his feelings, in very strong language, toward the photographer who spoiled a big batch of the pictures taken on the journey through Texas.

Often the pictures can be made to tell more of the story than the printed words can do.

Even the start to visit this part of Texas was somewhat difficult. New Braunfels, the home of Louis Scholl, was the first place to be visited. With E. G. LeSturgeon for pilot, our party started early from San Antonio to drive across country. It was a balmy March day and the bees were humming on agarita. Before the outskirts of the city were passed we had a blowout that sent the tire rolling, and lost the rim entirely. One of the party, sent back along the road,



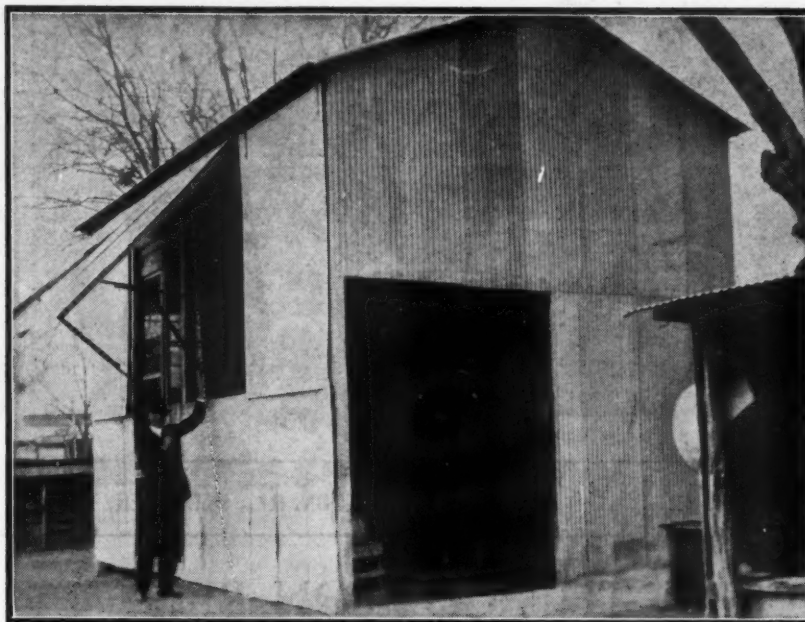
A group of Waco beekeepers.

chanced to catch sight of a small boy entering a house with the missing rim in his hand. With proper repairs, we made good time for another dozen miles, when the car suddenly came to a stop, and refused to be moved. Investigation revealed the fact that there was a broken rear axle, and New Braunfels 15 miles away. Everybody piled out, picked up his grip and started down the road. It was only a few miles to a small railroad town, and the last train for the day was nearly due. It was a good, stiff walk, but we made it just in time to catch the train. With a party three hours over-due and dinner getting cold, one could expect to find a nervous housewife, but Mrs. Scholl made the best of the situation, and her reception compensated for all the delays encountered.

Scholl has about fifteen hundred colonies of bees in 31 yards, which is probably the largest number under one management in Texas at present. In this section cotton yields nearly every year and is the source of the principal surplus of market honey. The apiaries are scattered in three directions from New Braunfels, those farthest out being about 25 miles in each direction.

Although within the cotton belt, mesquite is still an important source of honey for some distance north of New Braunfels. Horsemint is another important plant, which contributes much to the success of beekeeping all through the cotton belt. In favorable seasons a crop of honey is also secured from broomweed. This honey is a poor market product, being strong in flavor and yellow in color. In seasons when it blooms freely all white honey is removed from the hives, leaving the bees to fill their brood-chambers with this yellow honey for winter stores.

Mr. Scholl is well known as an advocate of the divisible brood-chamber. Most of his bees are in such hives, although he has a few in the Langstroth.



The Scholl honey house at New Braunfels.

Waco is in the heart of the cotton belt and one could not wish to meet a more agreeable throng of beekeepers than compose the local organization there. Commercial beekeeping is not largely followed in that section of Texas, but there are numerous persons who follow beekeeping more or less seriously as a side line. If space permitted, much could be told of the long field trip to numerous apiaries in that section, with several automobile loads of beekeepers forming a procession between apiaries, and an impromptu convention at each stop.

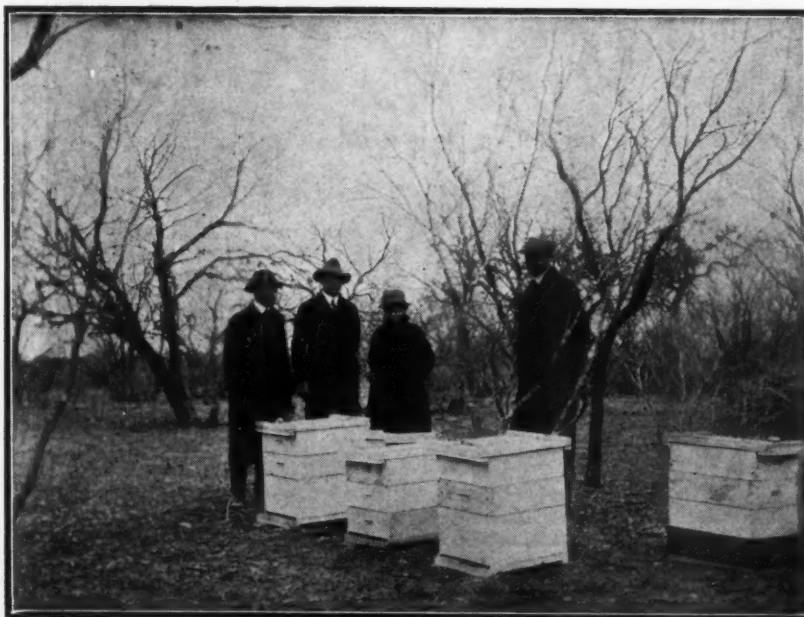
Cotton seldom fails on the heaviest black land in that section, but the nectar secretion is uncertain on other soils. Horsemint is the main stay for honey, however, in seasons following abundant winter rains, but little surplus can be depended upon when horsemint fails. Some seasons the

average from horsemint in commercial apiaries amounts to as much as a hundred pounds per colony. Mesquite was formerly common, but has about disappeared from the clearing of the land for farming purposes.

At Waxahachie we find cotton to be the principal source of surplus, with horsemint also important. On the upland there is so little to be had, until the cotton begins to bloom, that the bees have to be fed to build up for the cotton flow. Cotton begins to yield about the 20th of June. Near the streams there is a great variety of honey flora from early to late, so that there is a long, slow flow. Swarming begins in April. As mentioned in our October number, T. W. Burleson combines the selling of package bees with the production of honey. Since he has no surplus flow until near the end of June, he finds it greatly to his advantage to sell bees early and produce honey later in the season. In this way he has been able to sell more than three thousand pounds of bees and thirty thousand pounds of honey, this season.

As Waxahachie is situated in the natural gas region, Burleson has a most satisfactory arrangement for heating his honey house. The building is insulated, and fitted up with pipes for heating. It will hold about thirty thousand pounds of honey, and by keeping a steady temperature of from 85 to 90 degrees, there is no granulation of the honey in storage. Heating with gas requires a minimum of attention and costs about \$12.50 per month.

In the country about Roxton and Paris, sweet clover is an important source of honey. This, in addition to horsemint and cotton, makes a favored region for honey production. In this section we find more beekeepers, and honey production is more of a specialty than a side line. Unfortunately, a heavy rain prevented us getting out to the apiaries here. The only apiary visited was that of H. D. Murry, who recently moved here



The Scholl apiaries are arranged with hives in groups of five



One of Judge West's apiaries at Waco, Texas.

from his former location at Mathis, in Southwest Texas, because of the continued drought in his former place.

Murry is a giant, physically, and gives one the impression of being as big in heart and soul as in body.

To meet a lot of beekeepers like those at Roxton, and then have it rain, so that it is impossible to get to the apiaries and see how they do things, is quite a disappointment. But after the dreary drought of other sections which had so recently been visited, rain seemed like a most desirable visitor, after all.

California Weather and Prospects

It is now Columbus Day, or, as we call it this year, Liberty Loan Day, and the weather is unusually hot for the season, it being 78 degrees as I write this, in the coolest room in this modern cement-covered house. I presume it is high 90 degrees without.

Since my previous letter, we have had great growing weather, with but one or two light sprinkles of rain, really not what we should have had for best results. But as it is yet early, it is likely that seasonable showers will come to boost the growing grass and other herbage.

The early rains have started rather abnormal conditions in the vegetable world. Too many fruit trees of various sorts, as well as some deciduous flowering plants, have been bursting into bloom thus early; they should not, ordinarily, until spring. This abnormal condition may be detrimental to next year's fruit crop.

Grass is higher at this time than it was early in March. With more rain soon, there will be fine pasturage for stock all through the winter, something that does not happen often, as the early frosts of Novem-

ber give the grass that starts the first of October a decided set-back, usually. This happy early starting of the cow feed also gives an impetus to the bee forage plants. In a few places I have already seen alfalfaria in bloom this week; there will be a plenty of it in bloom in a week or two. The blue-gum (eucalyptus globulus) is showing a heavy crop of flower buds. Some red-gums are still in bloom and they may start a second crop right on the heels of the present inflorescence. White clover, which has been introduced here and is rapidly spreading, is making a fine growth and blooming. Goldenrod and asters are in bloom, and hore-

hound is again coming into bloom and is plentiful in places, and so are several varieties of dandelions and thistles.

I notice that these rains have boosted wild alfalfa and many other honey-plants into new life, all of which will be beneficial for next year's honeyflow.

Bees are doing well.

W. A. PRYAL.

A Letter From New Zealand

Our winter season is just over and at Canterbury it has been the most severe winter for 25 years. As far as I can ascertain, the bees around Christchurch have wintered well, excepting neglected colonies short of stores.

For the past two years we have had poor crops, but this year a good season is predicted. Already the willows are yielding well, which will help brood-rearing. Our main flow comes in December from white clover. So far, sweet clover, of which we read so much in the American journals, has not made its appearance in this country.

The honey market is booming in New Zealand, prices are high, while beeswax is very dear and scarce. Extracted honey brings 24 to 30 cents per pound at retail, while sections bring 24 to 36 cents.

E. WELSFORD,
Linwood, Christchurch, New Zealand.

Black Bees Short of Stores

Those little German Black bees will all starve this winter, while the Italian bees will have plenty. I never saw so much difference. Men with black bees are all howling for sugar, while my bees have 50 to 100 pounds for each colony to winter on. It was of rather poor quality, so I left it on the hives.

J. F. DIEMER,
Liberty, Mo.



An impromptu field meet at a Waco apiary.

AMERICAN BEE JOURNAL

Established by Samuel Wagner in 1861

The oldest Bee Journal in the English language. Consolidated with The National Bee Journal in 1874.

Published monthly at Hamilton, Illinois.

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C. C. MILLER Questions Department
MAURICE G. DADANT Business Manager

THE EDITOR'S VIEWPOINT

Honey From Tobacco

We have been trying for several months to secure satisfactory information concerning the extent to which the bees work on the tobacco plant. So far we have found only a few references to it. Readers who live in the tobacco growing districts will confer a favor by writing us of their observations along this line. How often the bees get surplus from tobacco, the quality of the honey and any other information will be appreciated.

Summer Disease of Adult Bees

The "Journal of Economic Entomology" (Concord, N. H.) for August, 1918, contains an article from one of the bee authorities of New Jersey, Mr. Elmer G. Carr, upon a disease resembling bee paralysis or May disease, which appeared in a few localities during the summer of 1917. The ground in the vicinity of the hives was covered with thousands of sick or dying bees, which collected in groups on slightly elevated objects, being apparently unable to fly. This disease decimated the colonies to such an extent as to render them of no value for honey production. The trouble was suggested to be **perhaps** due to an excess of consumption of pollen.

We noticed a condition similar to the above in our home apiary at Hamilton, one Sunday afternoon in the month of June of the present year. Nearly all the colonies seemed to be affected. But during the evening, most of the bees managed to crawl back to their hives, and the next day there was no trace left of the trouble. These extraordinary

circumstances are called to the attention of men who think there is nothing more to be learned in beekeeping. Our scientists will probably sooner or later learn the cause and cure of such troubles. But additional investigations must be made by all interested.

Wintering Bees in Cellars

We have before our eyes a very good Bulletin (No. 1014) on the above subject, by our active Government apiarists at Washington, Messrs. E. F. Phillips and Geo. F. Demuth. If there is occasionally cause for complaint of official inefficiency, it must be acknowledged that our industry has a few good men at Washington, and that, in their case, at least, the "in" may be cut from the word, for they prove more and more efficient as time passes.

It is not yet too late for those who winter their bees in cold countries to send for this Bulletin. They will find in it many good suggestions. The ground is well covered.

It will be noticed that the authors speak of a temperature of 50 degrees as most satisfactory. In our experience with several cellars during some 15 years of practice of cellar wintering, we have found 40 to 45 degrees the point at which bees were the quietest. But the degree will vary at different spots and different heights in a repository of this kind. We placed the thermometer near the door, where it was the easiest to control, at the height of the eyes, against the wall. Perhaps 50 degrees would have been reached in the middle of the cellar or between hive rows. To our mind, the best criterion is the quietness of the bees. Find at what

degree they are quietest and keep it at that. They should be disturbed as little as possible.

The Beemoth in Texas

The Texas Agricultural Station at College Station issued a Bulletin, No. 231, on "The Beemoth," by F. B. Paddock. It is an exhaustive pamphlet on the subject and treats of the natural history of the insect and of the methods of control. We want to assure Professor Paddock that the three generations produced annually by this insect "in the extreme southern part of the United States" are also produced as far north as Illinois.

The only advantage that the North has over the South in regard to moth ravages is that the winter kills the eggs and the live insect, whenever they are not protected in colonies of live bees or in warm houses.

The beemoth is certainly worthy of all the attention that it receives, even if we know that strong colonies have nothing to fear from its ravages.

Honey Versus Sugar

The present scarcity and high price of sugar is a reminder of the gigantic consumption of the latter, while at one time **honey** was the only sweet food known to man. Honey was thought to have been used in the food of the gods, as well as in their beverage, or nectar, which was said by Homer to be made of red wine and honey. For that reason, the sweet exudation of the blossoms which the bees gather is still known under the name of "nectar."

Pliny, who is said to have died in the eruption of Vesuvius which destroyed Pompei, speaks of "a substance resembling congealed honey which was produced by a cane grown in India and Arabia." Strabo, the Greek geographer, living before the Christian era, wrote in his fifteenth volume of geography, of a "reed which produces honey without the help of the bees."

But sugar did not get into common use until after the Crusades, in the early years of the 13th century. The companions of Godfrey of Bouillon, the leader of the First Crusade, took notice of the sugar cane used in Syria, but as it was thought impossible to cultivate it in Europe, owing to the coldness of the climate, they concluded that the precious plant, producing this honey-like substance, was purposely intended for the sole

use of the "Promised Land" which had given birth to Christ. Albert of Aix, one of the ancient historians of the Crusades, reported that the sugar cane was of great use and relief to the Christians during the famines which they had to withstand, while they hopelessly tried to redeem the Holy Land from the Saracens, whose descendants have held it to the present time.

The evidence of the origin of sugar as an "Indian Salt" is to be found in its name. To reach its origin, we must trace it back to the Tibetan "sa-kar," a white dust. The making of sugar evidently began there.

The first cultivation of the sugarcane in Europe was in Spain and in Sicily. In this island it was introduced under the orders of Frederick II, Emperor of the Roman Empire, in 1230. The Spaniards, after the discovery of America, brought the sugar cane to Brazil and to the West Indies.

However, in the Middle Ages, sugar was not of constant use anywhere, and, until the 18th Century, was kept for sale only by apothecaries as a medicament. In that century its production grew rapidly, and the export to Europe, from the Antilles, in 1745, was estimated at 137,000 tons.

The use of beets, for making sugar, was demonstrated first in 1605, by a French chemist, Oliver De Serres; then experimented upon in 1747, by Margraf, a German chemist; but the practical application of the discovery was not made until 1796. It was not until 1812, however, that beet sugar was produced of as good quality as cane sugar.

In the past 50 years, cheap sweets of commercial glucose have been produced in unlimited quantities, from starch boiled with sulphuric acid, and many cheap candies and syrups are made from this source, with the name of "sugars." It is a degradation of the higher sweets, the sugars from cane, beets or maple, to place corn glucose in the same class.

Honey, the nectar of sweet-scented blossoms, distilled by nature and carefully gathered by the fleet-winged bees, without artificial heat or reduction, without chemical mixtures, is as much above sugars as the latter are above corn syrups. The world is appreciating this fact and we see the proof of it in the present soaring prices of honey. Let us han-

dle it with neatness and care, let us neglect nothing to keep its reputation where the experience of centuries has placed it.

Large Hives

The lengthy article which we published in our previous number upon the above subject is bringing remarks and criticisms. Many people think that they have tried the large hives when they have used the 10-frame Langstroth hive. Indeed they have not. As we have shown, the 10-frame Langstroth hive is smaller in brood surface than the 8-frame Quinby. When we used the 8-frame and 10-frame Quinby side by side, as we did for a number of years, the result was the filling of as many supers of the wider size on the large hives as of the smaller size on the narrower ones, which made a difference of 25 per cent in the crop, in favor of the larger hives. This was almost invariable, though occasionally a colony in large hive with an inferior queen failed to keep up with the others.

Of course, both 8 and 10-frame hives are large enough if you pile the stories so as to allow the queen to lay to her full capacity previous to the crop. But with a hive of the size of the Jumbo it is not necessary to add to the breeding room by a second story.

Some beekeepers assert that they have had queens fill 16 frames with brood. But if they make close examination they will find that the 16

frames are very plentifully supplied with honey and that 12 frames, Langstroth size, would cover the laying capacity of the best queens.

The advantages of the large hive system lie in less swarming and easier manipulations, in addition to the increase in crop results, provided your bees are reared at the proper time. The younger generation of Dadants are quite positive that an active beekeeper, with a Ford, can take proper care of a thousand colonies, scattered over several miles of territory.

A matter of some importance to the practical beekeeper who wishes to rear his own queens is to ascertain which queens are the most prolific and the best for honey production. This he is unable to do as thoroughly if he does not provide the bees with sufficient breeding space to develop the power of the best queens to its full extent. The large hives help in this.

If tests are made of small hives and large hives, side by side, they must be on a scale sufficient to avoid passing judgment on possible exceptions. Otherwise you are in the position of the apiarist mentioned in the previous article, who considered 8-frame hives as too large and stated his preference for 4 to 7 frames.

In all things one must also use judgment and discretion in management. Some one asked a celebrated painter what he mixed with his colors to give such beautiful effects. His reply was, "Brains."



Apiary in Koukinsk, Caucasus. The hives are split timbers hollowed out and fitted together. The bees' entrance is in the middle. Each hive is set on four stones and covered with a bark roof. These primitive apiaries will shortly be replaced by modern hives.

THE PALMETTOS OF FLORIDA

The Palmettos Furnish the Finest Honey in Florida and in Favorable Seasons Yield Abundantly. Honey From this Source is Seldom Reported Outside of That State

Photos by Florida Photographic Concern

THE palmettos are the most conspicuous feature of the flora of the south half of Florida. The cabbage palmetto is a stately tree, while the saw or scrub palmetto grows more like the underbrush in northern forests. To the man accustomed to dense forests, the open, park-like growth of the palmettos hardly seems like woodland. The illustration gives a good idea of the typical Florida landscape.

This group of plants is not important in America, outside of the State of Florida. A small area in lower Texas, about the mouth of the Rio Grande river, is covered by a species of palmetto closely resembling the cabbage palmetto, but it is thought to be a different species. An occasional tree is also found along the seacoast as far north as Charleston, S. C. They are to be found also as street trees in various southern cities along the gulf coast and in South Texas. The small saw palmetto (*Serenoa serrulata*) also extends its range into Georgia and the Carolinas, in open pine woodlands.

In Florida both forms are sufficiently abundant to furnish nectar in quantity worthy the attention of the commercial beekeeper. However, in too many localities there is little else available, so that the season between flows is too long to make beekeeping worth while. To take advantage of the palmetto flows and at the same time get good crops through the rest of the year, the late O. O. Poppleton practiced migratory beekeeping. His apiaries were moved several times during the year, so as to be near different sources in the period of bloom. The great drawback to beekeeping in Florida is the lack of a sufficient variety of honey plants in one location to support the bees profitably throughout the year. There are a few localities, of course, where this does not apply.

The Cabbage Palmetto

The cabbage palmetto (*Sabal palmetto*) gets its name from the cabbage-like formation in the bud at the top of the growing trunk. The tree grows twenty-five to thirty-five feet in height and has large fan-shaped leaves several feet long. It grows along the Atlantic coast to the north line of Florida, but in the interior is not found in abundance more than about two-thirds of the way.

The tree blooms during July and August, the latter date applying to northern parts of the State. The blossoms are very delicate and have been likened by Prof. Baldwin to a giant ostrich plume. According to his statement, the flowerets are sensitive to weather conditions. Too much moisture blights them, while

the opposite extreme blasts the delicate bloom. As a consequence, it does not yield abundantly more than about one year in three, although at times it yields very profusely.

"On the St. Lucie river, Mr. Hill extracted, barreled and shipped 3,500 pounds of palmetto honey from 65 colonies in two weeks."—Page 489, American Bee Journal, 1899.

While palmetto honey is regarded as of very high quality, the honey from the cabbage tree is rather thin and requires some care in getting it

properly ripened, as the following quotations will show:

"Cabbage palmetto honey, sealed or unsealed, will foam as though fermentation was in progress; that taken from the combs unsealed will ferment enough to deprive it of all honey flavor, but the sealed only foams. Thin and acid and amber in color, it will flow bubbling from the cells behind the knife, and it is not a rare thing to see gas bubbles under the cappings of the sealed cells. Whether the colonies are strong or



Bloom of the cabbage palmetto.

weak, it is always the same, when the bees work on the cabbage trees, as the common palm tree of Florida is called. The name comes from the fact that the bud in the head at the top is eaten in lieu of cabbage.

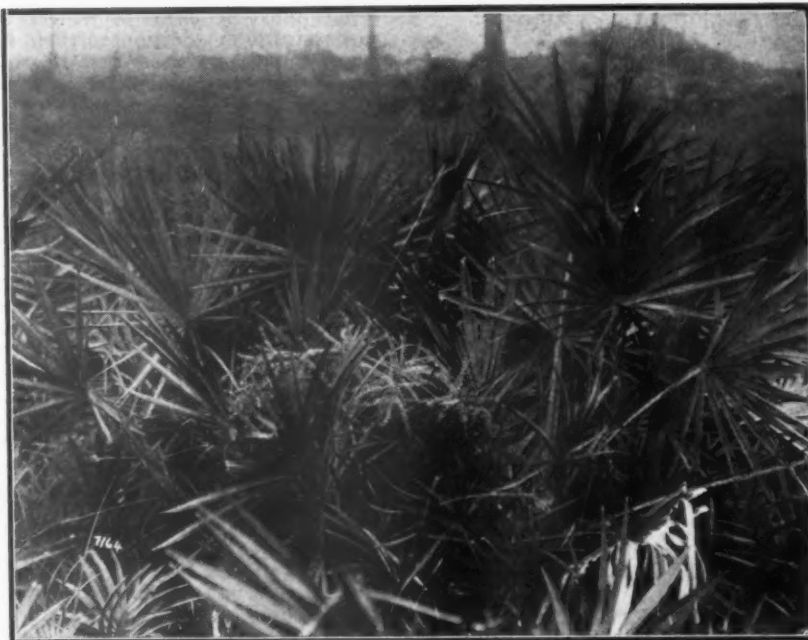
"The saw palmetto is decidedly different in the nectar it yields. Saw palmetto honey, even unsealed, may be called a good honey, and it is, too. When ripened it is a honey that makes a name for itself when enough care is taken by the producer to have it unmixed with other nectars.

"I write from personal experience on the east coast of Florida."—L. K. Smith, *Gleanings*, page 39, 1909.

The Saw Palmetto

The saw palmetto (*Serenoa serrulata*), often called scrub palmetto, is a low growing, little palm, found on dry soils in the Gulf Coast region. In the southern portion of its range, in peninsular Florida, it attains the proportions of a small tree. There it sometimes reaches a height of 20 feet, with erect or inclined trunk. Further north the stem is almost invariably underground. Large areas of pine lands are covered with it.

The blooming period is April and May. O. O. Poppleton wrote con-



Saw palmetto in bloom.



Cabbage palmetto in bloom.

cerning his calendar of the year:

"April—Saw palmetto flow commences early in the month and continues until last of May. Our apiary work these two months is extracting, building up all colonies and replacing poor queens."—*Beekeepers' Review*, page 11, 1893.

Concerning the honey from saw palmetto, we quote E. G. Baldwin as follows:

"The honey from saw palmetto is lemon-yellow in color, thick and waxy and of pronounced but delicious flavor. It is not quite so transparent as pure orange honey, but seldom candies, and makes a choice table article. Mr. O. O. Poppleton pronounces it the best honey in Florida, with the possible exception of tupelo. It is liked by almost everyone at first taste; is a trifle milder, even, than orange."—*Gleanings*, page 177, 1911.

Forest fires frequently destroy many square miles of the saw palmetto, thus removing this source of nectar for one year. However, according to Baldwin, the burned-over portions usually produce the most honey the following year.

Concerning the flow from palmetto, E. B. Rood, of Bradentown, writes as follows:

"We have been having the heaviest honeyflow from palmetto for ten years. One colony on scales brought in 50 pounds in four days, and 80 pounds in ten days. I expect 20,000 to 30,000 pounds. I have extracted 13,000 pounds now and am just starting on another round."—*Gleanings*, page 703, 1908.

The Chicago Northwestern Beekeepers' Association

will hold their annual convention at the Great Northern Hotel, Chicago, December 10-11. A good program is being prepared and will be sent to anyone interested as soon as completed. JOHN C. BULL, Sec.-Treas.

Valparaiso, Ind.

Fifty Years Ago

On Wintering Bees

(American Bee Journal, Dec., 1868)

By R. Bickford

It is settled beyond a doubt in my mind, by the experience of others as related in the American Bee Journal, and by my own experience for several years in the apiary, that bees, to winter well, must have sufficient ventilation to carry off the excessive moisture which accumulates in well-stocked hives. This moisture arises partly from the exhalations from the bodies of the bees, but mostly, I think, from the surrounding atmosphere, which constantly holds in suspense a greater or less amount of moisture, according as its temperature is higher or lower. The warm atmosphere of the hive is capable of holding a considerable quantity until it is condensed by coming in contact with the cold walls of the hive, at some distance from the cluster of bees. There it condenses, first into minute drops of moisture and afterwards, if the cold increases, into frost. The constant accumulation of the quantity, by repeated thawing and freezing, in a hive that has not sufficient means of ventilation, gradually encroaches upon the space occupied by the bees, finally reaching those on the outside of the cluster. These grow benumbed, cease to eat, lose their vitality, grow cold, the frost forms on their bodies and they die where they stand.

The frost continues to penetrate the cluster, if the cold weather is prolonged, until finally the last bees die covered with frost. The warm days of spring then melt this frost, and on examination, the whole mass of bees are found dead, and as wet as if just dipped from a basin of water.

I found one hive in that condition last spring. The entrance to this hive was left open, but the honey-board was left on tight, without any upward ventilation, as an experiment. All my other colonies wintered well on their summer stands, having their entrances open 3 or 4 inches wide and the front and rear openings in the honey-boards (half an inch wide and extending the whole length of the hive) uncovered, but the middle opening closed.

For the coming winter I have adopted Mr. Langstroth's plan, with some modifications. I shall omit the outside covering of the hive, believing it is better to have the hive of a single thickness of board, say seven-eighths of an inch, in order that the heat of the sun may easily penetrate it, and warm up the hive almost daily, thus giving the bees an opportunity to bring to the central part of the hive fresh supplies of food from the outer combs. This plan may lead to a somewhat greater consumption of honey; but if a swarm of bees gives its owner from 30 to 100 pounds of surplus honey in a season, as mine have done the past summer, he ought to be entirely willing to have them eat all they need during the winter. At all events, one of two

things must be done, to winter bees successfully, in addition to their having a supply of food and thorough ventilation, they must either be kept in a repository where frost cannot enter, as a cellar, trench, ice-house or the like; or they must be put where the sun can warm them up occasionally.

I have removed all the honey-boards, placed two one-half or three-fourths inch strips across the frames, and covered the whole top of the frames with any old woolen garments that could be found about the house. There need be no cutting or fitting. Pack them in as you would pack a trunk, in the top box; two, three or half a dozen thicknesses will make no difference. The moisture will pass through as readily as the insensible perspiration of our bodies will pass through our thickest clothing. The hives will remain dry and the bees warm. I have no fear of losing a single swarm the coming winter, although several new ones which I bought, are quite weak, owing to the sudden close of the honey harvest a month earlier than last year, in consequence of the drought.

Seneca Falls, N. Y.

The Argentine Ant

A LOUISIANA beekeeper writes to enquire how to rid his apiary of Argentine ants, saying that they have destroyed ten hives of bees in four months. This insect is a serious pest in the apiary and also interferes seriously with numerous other agricultural activities. Although, as yet, the area where it has become established is not large, it is sufficiently serious where it has become established to make it a matter of general interest.

The Argentine ant, as will be apparent from its name, is very probably a native of South America. It was first noticed in this country in New Orleans in 1891, and had probably been present for several years. It has become established in several places in California; in three or four

counties or more in Alabama, in several counties in Mississippi, and over a considerable portion of the south half of Louisiana, as well as in one or two localities in the northern portion of the State. It is very probable that its spread will continue until it occupies all the Southern States, as well as the milder portions of the Pacific Coast.

The introduction of the English sparrow has brought a pest to our doors that is hardly worthy of consideration in comparison with the Argentine ant. It is usually first noticed from its invasion of the domain of the housewife. It is almost impossible to keep foodstuffs free from them, once they find their way into a house. In stores and eating-houses they become so annoying as to be intolerable. Syrups, cakes, candies, fruit are especially sought for, although they do not hesitate to attack raw meats and even cornmeal.

Cases are on record, in localities where they have become very abundant, where babies in their cribs have been annoyed to the point of distraction by the ants crawling over their bodies and into their mouths and nostrils. In some sections it has become necessary to set bed-posts in some kind of repellant in order to make it possible to sleep in quiet. Not until the insects have been present for a considerable time do they become sufficiently abundant to demonstrate fully all the disagreeable irritations which they are capable of inflicting upon the unfortunate neighborhood.

They sometimes remove garden seeds from the ground before they have sprouted, they damage the fig crop by boring into the ripened fruit and tunneling the interior, and they damage numerous kinds of blossoms by cutting into the unopened buds. They cultivate plant-lice and mealy bugs on various crops to a serious extent; they sometimes visit the nests of sitting hens in such numbers as to cause the hens to abandon their nests. They make themselves so generally disagreeable that land



Typical Florida palmetto grove.

values decline perceptibly in localities where they become established.

In the orange groves, along the lower Mississippi, in Louisiana, the damage has been especially serious. Following their introduction there was a rapid increase in scale insects. Within a year the effect can be seen on the orchards, within two years they are seriously injured and usually the third or fourth year they are ruined.

It is the effect upon the beekeeper, however, which is of first interest here. Fortunately, beehives, unlike orange trees, can be placed beyond the reach of the intruders. In most infested localities, as yet, it is possible by moving the apiary a short distance to find a spot free from annoyance, although the time may come when that is impossible. During the time of service as secretary of the Louisiana crop pest commission, Wilmon Newell made an extended study of the relation of the Argentine ant to beekeeping and other similar lines. Concerning the effect on bees we quote him as follows:

"The keeping of bees is well nigh impossible in sections heavily infested by the Argentine ant. . . . The Argentine ants are not only exceedingly fond of honey, but they attack the bee larvæ in the cells with a ferocity that is amazing. Thousands upon thousands of the ants will enter the hive, carrying away honey and attacking the larvæ. The bees themselves are unable to cope with such small enemies. . . . In a few hours after the attack has commenced the bees become thoroughly disorganized and give up further defense, sometimes swarming out as a last resort. At such times the normal hum of the hive gives place to an entirely different note, which the experienced beekeeper will recognize as that of distress.

The difficulties of extracting and handling honey in the presence of these pests can be readily imagined. In order to extract, we first scrubbed the floor of the building, using copious amounts of carbolic acid in water. The foundations of the build-

ing and a space about a foot wide around the building were then sprayed with crude oil. The extractor, as well as the uncapping can, were placed in a large tray containing several inches of water. When all these preparations were complete, the supers were taken from the hives, and as fast as brought in were stacked on tables the legs of which were wound with corrosive sublimate ant tape. Extracting was done as expeditiously as possible, but with all our pains the ants were all over everything before we could extract and bottle three or four hundred pounds of honey. Even our clothing was teeming with the workers, and all human effort was helpless to keep them out of the honey."

About the only method of keeping bees in the infested regions is by means of placing them on hive stands with the legs in oil or some other repellent that prevents the ants from reaching them. In Newell's bulletin the following plan is described as successful:

"Blocks of wood are obtained, on which the legs of the bee-stand rest. Then the cover of a lard can or other tin box sufficiently wide when placed in an inverted position on top of the blocks will overlap the blocks of wood on all sides. A paste consisting of vaseline mixed with kerosene and red pepper is then spread thinly over the inside of the can or cover, and the ants will never be able to reach the legs of the stand and gain access to the hives. An advantage of this method is that the paste need not be renewed more than every year or two, and being protected from the weather it cannot be washed off."

It is quite possible to care for a few colonies of bees in some such way, but commercial beekeeping becomes unprofitable under such conditions and the best thing for the beekeeper is to seek a more favorable situation for his apiary. It may not be necessary for him to move them more than a few miles at first, and as the ants spread slowly he may not be again disturbed for years.

My Neighbor's Garden

By C. D. Stuart

"GUESTS for luncheon and not an egg in the house!" The Magic Girl's voice, full of trouble, came floating across the gulch.

"Two miles to the nearest grocer," I groaned, and bent lower over an open beehive without replying.

But the call was repeated. With a reluctant "Coming!" I replaced the hive cover, jumped over the dry creek bed and climbed to the road that curved round the base of the steep wooded hill. A sedate white hen eyed me curiously, picked her way to the other side of the road and disappeared in the shrubbery. The years rolled back. I was just a boy again on track of a stolen nest. No scruples deterred me, for was I not expected to furnish eggs for guests?

The hen pursued a zigzag course as though to throw me off her trail; but I easily followed the rustling of leaves as she scrambled up the hillside. A few moments later we emerged in a tiny open space whereon perched a house that resembled nothing so much as an overgrown beehive. Other white hens were walking nonchalantly about, and thus the chase came to a prosaic end in a neighbor's poultry yard, the existence of which an hour earlier I had never even dreamed. I had just decided to acquire the eggs by honorable negotiation, when I was accosted by my neighbor herself.

"Are you the beeman?" she asked, without preliminaries.

Taken unawares, I blurted out the truth. But afterward I comforted myself that while wearing bee veil and gloves and with the end of the hive tool in plain view above my hip pocket, a denial would have been useless, anyway. Besides, she hadn't given me time to deny anything, but ordered me to come and see what my bees were doing.

Prepared for the worst, I meekly followed. Round the corner of the house the air was thick with my honey-gatherers.

"Robbing!" I gasped.

"No, they're only thirsty, poor dears," chirped the old lady.

The suspense over, I felt weak and started to sit down.

"Not there!" my neighbor warned me, and gently lifted from the porch a dripping doormat covered with bees sucking the moisture from its fibrous surface.

"How long have they been bothering you?" I asked.

"They don't bother me," she declared. "I made up my mind when I saw them trying to get water after we had the cold snap in February, always to have it handy for them.

For brood rearing, of course! Strange I hadn't thought of it. I remembered now the bee books do say that water is necessary for diluting honey fed to young larvæ, and also for moistening the pollen.

"I had a picture made of that frozen hydrant to send east," she continued. Folks back there can't



A democratic watering place.

believe we have flowers and ice at the same time.

"And folks in California **won't** believe it," I rejoined, as I looked at the photograph which she brought out to me, then t the hydrant in the yard. The icicle (first in twenty years) leading to the ground, was now replaced by a board reaching from the faucet and resting in a bed of water-cress. Nailed obliquely on the board were short slats to which the bees cling by their toes while drinking the water that constantly trickles in a thread-like stream from the pipe.

"Aren't you afraid they'll sting?"

Dear me, no," she laughed. I've always lived among bees. Grandmother had them when I was a child. They packed the attic full of honey, and whenever she wanted any for the table or for a neighbor, she simply went upstairs and cut out a piece."

"I suppose she sulphured the bees in the good old-fashioned way," I commented.

"No, she didn't need to. They never bothered her, and she didn't wear your new-fangled contraptions for protection, either. Grandfather used to say the bees laid in extra stores just for her, so, of course, they didn't mind when she took it."

"Did you ever keep bees yourself?" I queried, as she calmly adjusted the drip to accommodate a thirsty arrival.

"None except yours," she replied. "They know where to come when the creek dries up. They don't drink much, but they need it reg'lar."

As I examined her numerous devices for the accommodation of my bees, I decided that they needed water not only "reg'lar," but served in a variety of styles. On a bath towel hung out to dry, many bees were gathered; others were holding a kind of caucus on a flower-box where the water had seeped through the cracks; still others preferred the trough used by my neighbor's cow, much to the annoyance of that patient animal. But my eyes kept coming back to the hydrant. There delegates from the different hives gathered in democratic convention. Not that I felt any desire to eavesdrop. Bees with a sense of justice would scarcely spare the man who had made no provision for the quenching of their thirst, thus exposing them during a long dry season to the exigencies of chance and of public charity.

Somewhere in the distance a whistle blew.

"One o'clock!" I exclaimed. I rose guiltily, and acquainted my neighbor with my real errand.

"A dozen eggs!" she repeated, aghast. "I've only two in the house, but I'll divide with you."

Duly grateful, I hurried homeward, my hand firmly grasping the isolated egg in the deepest corner of my pocket, and my mind busily framing a plausible explanation of the delay—my first domestic remissness. As I neared the door, I hesitated, conscience-stricken. "Hang it all, why does a hen cross the road, anyhow?" I muttered, impatiently.

Thus fortified by placing the blame

where it properly belonged, I marched boldly in. The table was as usual—covers for only two.

"Our guests telephoned they were detained—a puncture or something," explained the Magic Girl, serenely.

So we didn't need eggs, after all. "Hooray!" I shouted, and dropped into the nearest chair, quite oblivious of the muffled crash that followed.

Los Gatos, Calif.

Results of Experiments With Variation of Demaree Plan for Swarm Control During Season of 1918

By W. J. Sheppard

THE variation of the Demaree plan that gave good results in the Kootenays in 1917 has been tried this season as well, and has again proved satisfactory, both from the standpoint of swarm prevention and the increased amount of honey obtained. The ordinary Demaree plan for swarm control, which is an excellent one and has many adherents, is as follows: Just before the colony is ready to swarm put all the brood, excepting one or two frames (two, I think, are best), in a second story, over a queen excluder, leaving the queen below with the two frames of brood, the vacancies at the sides being filled with empty combs, or, failing which, full sheets of foundation. Cut out all queen cells at the same time, if there are any, and search for and destroy any queen cells, on the eighth or ninth day afterwards, that may be found in the second story. The brood frames in the second story, as soon as the brood hatches out, will be used by the bees for storing honey. Add other supers above the second story as needed.

The following are the details of the variation of the Demaree plan referred to, by which a new queen can be assured to each hive every year: When the bees cover all the frames in the brood chamber, towards the end of May, find the queen and place her with two or three frames of un-

sealed brood in the center of a second story, over a queen excluder, adding empty combs, or frames containing full sheets of foundation, at the sides. Put in frames containing combs or full sheets of foundation at the sides of the brood combs left below. The bees will usually build queen-cells below the excluder, all but one of which should be destroyed on the eighth or ninth day afterwards. After the young queen has hatched below, and is mated and laying, the old queen can be removed. If she is provided with two or three frames of brood and put into a fresh hive on a new stand this will make a good nucleus. The old queen, however, can be left until the combs below are partly filled with brood. By this method, if carefully followed, it is scarcely possible for the bees to swarm, the old queen being above the excluder, with ample room for egg-laying. A powerful colony can by this means be built up in readiness for the honey flow in July, and a young queen assured to each hive so treated every year. After the old queen has been removed from the second story, queen-cells may possibly be built there. If so, these should be destroyed on the eighth or ninth day afterwards. A colony headed by a queen of the current year will not swarm, as a general rule.

As a further result of the experiments carried out this season, it was found that when the new queen excluder was used the bees, as a rule, would build queen-cells, except when a shallow super was put above the first story, and a second wire excluder over that, making it necessary to place the queen with the frames of brood in a third story of deep frames. But if an ordinary zinc excluder was used instead of a wire one, there was no difficulty in getting the bees to build queen-cells. It follows, therefore, that an all-wire queen-excluder is the best to use when the ordinary Demaree method is practiced, that is when leaving the queen below and queen-cells not required, but when she is put up into the second story, in the variation plan, a zinc excluder will give the desired results. Putting a shallow super between breaks up the colony too much, and is, therefore, not satisfactory. The freer communication through the wire excluder doubtless accounts for the bees not building queen-cells.

Neslon, B. C.

Wholesale Transferring

By O. H. Gibbs

ON June 17, 1916, I purchased 56 colonies of bees in a miscellaneous assortment of boxes. Among them were several old styles of "patent" hives, and a few Langstroth frames, but in none were the combs built true. I got them cheap (\$25 was the price paid), but had to move them about 10 rods at once. Some of them had swarmed and gone away, the people having hived but three or four in old boxes full of combs. Several boxes were split from top to bottom, showing heavy combs



Bees watering from the weekly wash.

of honey. A large number were two boxes tiered up, and some were 4 feet high, with bees hanging out. I had no supplies, so the same day I went to one of the hive agencies and bought fifty 10-frame hives and forty shallow supers. I had foundation and got immediate delivery of some of the hives. I put men at work nailing them up and putting in foundation, full sheets, in wired frames. In the meantime I moved the bees, nailed the boxes that were tiered up together and then rolled them onto a wheelbarrow and wheeled them down into an orchard away from the house. Some of these hives were heavier than I could lift, so I literally rolled them and ended them over as needed. Several swarms were hived in the new hives and sections put on, after moving.

As fast as I got the new hives the boxes were turned on their sides and the top side taken off. Then one of the new hives with foundation was fitted on by nailing strips to the box-hive, these were watched and if the bees did not go up onto the foundation to work, a frame of brood was given from one of the new swarms, which by this time had some hives filled with drawn combs, honey and brood.

This started the bees to work at once on the foundation next the brood, and by spreading it all the foundation was soon drawn. By daily watching, the queen would be caught alone and a queen excluder slipped between the new hive and box, so keeping the queen in the new hive. Now I would open the box as much as possible to induce the bees to carry the honey above, at the same time giving a shallow super filled with foundation. This was the general plan.

Some of them I drummed up at once, but always putting a frame of brood so that the queen would remain and be contented. This method gave the quicker results and considerable honey was stored in the supers. Some were very persistent in sticking to their old boxes, so much so that I finally tore their boxes to pieces and smoked the bees up and set combs and pieces of box hives all around the new hives before they would carry out the honey. A few, after the queens were in the new story, raised new queens, but only three or four, of course. I did this work in the midst of the clover flow, from June 17 to the middle of July, but they still had some honey in a few boxes with combs exposed in September, when I cut combs out and placed at entrances, then they carried the honey out. I kept account of about 1,100 pounds surplus honey from this yard. At the end of the season (October) I cleaned up the wax, and have weighed 225 pounds of the yellow wax. The bees were mostly pure black, although a few had an occasional yellow band. Some of these bees were fairly gentle and stayed on combs well. All of them were seemingly hustling, but some of them would go a mile to get a chance to sting. One of the first swarms I hived filled its hive, gave me 160 sec-

tions of fine honey and filled a shallow extracting super. The net increase was 8, making 64 colonies that go into winter quarters, and all heavy with honey, and most strong in bees. About 25 pure Italian queens were introduced during the transferring.

In drumming bees out of the boxes I used an old box in which sections come packed in the flat. This was light and high enough, giving bees plenty of room to get up away from their old home. Then, when all were up, I shook into the new hive, same as at hiving a new swarm. To drum out, I first smoked the bees, then turned boxes up with bottom open, setting old section drum box on top with openings together, then pounded with a club or hammer on hive, good solid raps, not hard enough to break combs, but to jar everything. I suppose bees think it's an earthquake by the way they hustle out. In from three to ten minutes practically all will be found out and clustered in drum box ready for hiving. I transferred a few of the best and straightest combs, but not many. As a rule it's cheaper to put in full sheets of foundation, and much better combs

result. This yard was 17 miles from home yard and I used a Ford to haul supplies and to make the daily trips. I bred my own queens at the home yard.

Wapakoneta, Ohio.

Rearing Queens in England

By A. H. Bowen

THE uncertainty of the English climate makes it necessary to modify the general system of raising queens to suit our needs.

The season is short and the duration of hot weather very uncertain.

Without a fair honey flow, uniformly good results are difficult to get. Nevertheless, a trying climate is likely to produce queens with more than the usual qualities of hardiness.

The races kept are English blacks, Dutch, Italians and goldens; which to avoid crossing are divided into separate apiaries as much as practicable.

My preference is for the last three varieties, which show advantages over English bees, as we now find them.

The difficulty with natives in a queen-rearing apiary is that the



Traveling crates for live bees on combs. Note padded bottoms to insure safe transit.

queens being black are troublesome to find, and the frequent handling and periods of queenlessness develop an acute crossness of temper.

To this must be added their susceptibility to the Isle of Wight disease.

Dutch colonies are generally used for starting the caps, because more can be given at one time and the larvae are lavishly fed.

Our cups are very slight and each one is attached to a cork, which connects it with the carrier, or cell-bar.

In this way they are easily handled, and the corks, when spoiled by the bees, can be cheaply replaced from time to time. For transferring the grubs nothing more elaborate is used than a common broad writing nib in its holder, or a quill writing pen is equally as handy.

A portion of an ordinary hive from which the queen is excluded by means of a queen-excluding dummy makes the best means for preserving the cells from the time they have been sealed over till nuclei are ready to receive them ten days after grafting.

Figure 1 is intended to show the construction of a simple type of hive for two nuclei.

Each division holds five or six combs, and both entrances face the same direction.

A stock with sufficient bees to cover 8 combs is used to populate two boxes at the commencement of the season.

The combs are gently lifted in—four into each division—and covered down with quilts. The portion without a fertile queen is given a ripe cell, and as soon as the existing queen has been removed a cell is inserted in its protector.

When the nuclei remain in the same position as the old colony there is no loss of flying bees, but after being given a week to become established they can be moved with but little loss.

Each nucleus properly cared for is capable of giving two fertile queens per month for the breeding season of June, July and August. In some late seasons mating results are quite good through September, when the month is warm and sunny; until lack of drones and the chill oncoming autumn brings operations to a close.

The time of cheap queens appears now to have gone by, since with better systems of harvesting honey it is the productiveness of a queen and not so much her cost that is taken into account.

Twelve years ago the bulk of queens were marketed under \$1.25 each, but of late years parallel with the development of more approved methods and the production of a better class of queens has naturally come the higher price.

The call for queens is heaviest during July and August, as those beekeepers who make a practice of increasing stock or requeening yearly do so at this period—especially in the northern part of our country where heather abounds, and the practice is of giving a new queen to build up colonies prior to the late heather flow on the moors.

Reverting to nuclei management the disadvantage of having weak lots before winter is overcome in the following manner:

Assuming an apiary to consist of 20 full colonies and 40 nuclei on five standard combs each, half of the queens from the poorest colonies are removed.

Twenty queens taken from the nuclei are introduced in their place, and each pair of nuclei are united together in one hive to form a strong colony.

In concluding, I might add that between combs of yellow sainfoin honey in the Cotswold apiaries are hibernating prettily marked bees; the progeny of queens from far-off Texas.

They are golden bees of B. M. Caraway's strain and even in this war-time most of the cages with their living contents traversed the distance in safety.

Cheltenham, England.

Reminiscences of Canadian Beekeeping

By J. R. Black

MY memory of beekeeping and beekeepers in Canada goes back a generation, for it was at the beginning of the 80's, in the last century, I began to keep bees. When I left the university, in 1875, I had a nervous breakdown which disturbed me chiefly in the prevention of sleep. When the medicine man had diagnosed my case he said, to my surprise, "Keep bees." I asked him, "Why?" He answered, "Keeping bees will take you out of your study, away from your books and give you a sun bath. For it is only when the sun is shining that you can handle them. And, besides, you will be so interested in them that you will forget your books, and the result will be favorable to your getting sleep." In a few days the doctor came with a colony from his own apiary and I made a beginning in beekeeping.

Forty years ago the late D. A. Jones was easily the most prominent apiarist in Canada. Jones was in Canada what Quinby and Langstroth were in their day in the United States. Not that Jones had anything like the inventiveness characteristic of the two Americans just named, for in the line of invention he left nothing perpetuating his memory. It is true he invented a hive having a frame 14 inches deep and about 10 inches wide, and later a hive called the "combination," the frame of which was simply the deep frame of the first turned on its side. Both of these hives attained a considerable degree of popularity, but for years now they have been back numbers. Jones also devised an uncapping knife which is still on the market and widely used. But if he didn't invent, he "boosted." His first big sensation was in a widely heralded 75,000 pounds of honey from Canada thistles. This was certainly a proud day for the much-despised thistle; but, alas! for the reputation resulting to the farmers of Beeton, the locality of the apiary where Jones' bees did such a fine piece of work. This result for a time furnished Jones with a text from which he undertook to urge on audiences, large and small, the importance of keeping bees to collect the honey not only from thistles, but from clover, basswood, buckwheat and the numerous wild flowers abounding in many sections of the country. The thing caught fire. The people were stirred deeply on the question of keeping bees, with such large possibilities as Jones was able to picture with the intake from thistles always, of course, in the background. For the next few years the demand for bees far exceeded the supply. Indeed, the



An English twin nucleus hive.

demand did not require to be large to exceed the supply. For the latter was small. The would-be purchaser was practically confined to Canada. Shipments from the Southern States in nuclei and pound packages had not yet begun.

Mr. Jones, if not inventive, was certainly enterprising. He published a bee journal, and though his English in speaking and writing may not have been to the queen's taste, he generally succeeded in making himself understood, while his practical knowledge of all in his day pertaining to the bee industry gave to what he said and wrote, special value.

His big undertaking, however, was a visit to the East for the purpose of investigating beekeeping there, and to secure new races of bees for Canada, in case he met with any indicative of superior merits over those of our own native bees. These, he believed, he found in Palestine and the Island of Cyprus. From these countries he brought back a number of colonies whose progeny secured some popularity for a few seasons subsequent to their arrival. But in competition with the Italians, which had been previously introduced to America they eventually failed to make good. The Cyprians were irritable and struck out vigorously when disturbed, giving all who interfered with them far from agreeable reminders of their power of self-defense. I secured queens of both importations. I found that the Palestinians had nothing to recommend them over the Italians, while they were inferior as honey gatherers, and in prolificness.

The following story is told of Jones in connection with the Palestinian shipment of bees at Joppa. When the consignment arrived from the interior of the country the ship on which they were to be taken to the West lay out a distance in the offing. The space between the vessel and the shore had to be covered in row-boats. The time for the vessel's departure was near. Hence, if the bees were to go they must be placed on board the vessel without delay. The Arab porters knew the situation and united in a demand for much bigger pay or they would do nothing. The strikers stood by the freight and, through an interpreter, listened to its owner's appeals to take the colonies to the ship. But all in vain. Then an attempt was made to secure others. But the first gang would let no one touch them. At this juncture Jones seized a colony, and lifting it high, let it drop on the rough stones composing the pavement. The impact freed the bees, and they proceeded to make themselves felt by the recalcitrant porters, who fled in all directions, and left the owner free to engage other workers on fair terms.

At the beginning of the period under review, the bee diseases of later times were not at all widespread. Indeed, an attendant at a beekeepers' convention, though listening to all that was said, might not hear a word touching American or European foulbrood, black or sacbrood. Ameri-

can foulbrood was, doubtless, present and doing its destructive work before much was said or even thought of it. But wherever it projected itself it could not long be left to do its fell work in quiet. Later came the European variety, and in presence of these evils a remedy was sought. Many experiments were made before an effective cure was discovered. This became known as the starvation process. The application of it has greatly checked the spread of the disease and lessened the area of its operations. Mr. Todd, of British Columbia, would have us believe that the application of fire to a diseased colony is the only effective cure and makes bold to aver that owing to the soaring application of the red flame foulbrood is more prevalent than formerly. In this contention, however, he will find few supporters. Those seized of conditions, as they are, know that foulbrood, whether American or European, has greatly decreased in volume, relatively to the number of colonies, during the past 25 years. No doubt some credit in the improvement is due to the displacement of the native black bee by the Italian. For while the claim that a purely mated Italian queen will cure any colony infected with European foulbrood may be more than is warranted in the actual issue, it is certain that once such a stock appears in a clean colony its immunity in future is one of the things to be confidently expected.

In a comparison of beekeeping forty years ago and now, mention should be made of the increase in the number of colonies and the decrease of the number of those who keep them. In the early period bees were mostly kept on farms. The number of colonies kept by each person ran from three to thirty. They were kept in boxes to which there was no access, by their owners, once the bees had taken possession. No manipulation was attempted other than getting the bees to enter at swarming time, and smothering them by sulphur fumes to take the honey away. They might be queenless, storeless, preyed on by moths, or in process of destruction by disease—their owner knew nothing, and, of course, did nothing. This primitive method, however, had this advantage, it did not require much experience or time to keep bees; hence, many farmers kept them. If the income was not large, neither was the capital and labor invested. But, when with the invention of the movable frame, and the extractor, beekeeping entered the realm of the sciences, the habits of the beehive could be studied and the results utilized so as to secure the largest possible profit to the apiarist. Therefore to keep bees with a view to securing a satisfactory profit on the capital and labor invested required expert knowledge and time to be given to their management. Thus beekeeping passed into the hands of experts—men who owned from fifty to several hundred colonies, and who spoke of their honey crop in terms of tons instead of hundreds. Some of the farmers, to obtain like results,

adopted the scientific method. Their bees, too, must be kept in movable frame hives, and the extractor displaced the sulphur and straining in the removal of the honey. Yet in this very change came disaster to beekeeping on the farm, for the average farmer had neither the experience nor the time to give proper effect to the modern methods, and his bees perished.

No change in Canadian beekeeping of the past half century is more marked than the Government's relation to it. During the first half of this period the beekeepers had to "paddle their own canoe." Those who presided over governmental affairs were content to leave the honey industry to private enterprise.

Ontario, Canada.

The Italian Bee—History of Its Importation

By C. P. Dadant

THE Italian bee has long been known as a superior variety of the honey-bee. Our text-books quote Aristotle, Virgil, Columella, as having noticed, from 1800 to 2200 years ago, the greater beauty of this bee and its high quality and peaceableness. Spinola also, about 1805, mentioned it as superior.

But there is no evidence of any bee lover having tried to export them, until 1843, when Captain Balenstein, living in his ancestral castle, in the Rhetian Alps of Switzerland, employed two men to carry a hive of them across the Alps to his home, from the Valteline, a narrow valley at the head of the noted Lake of Como. The distance was short, but it was across mountains inaccessible to the bees, owing to the perpetual snows. His failure to succeed in keeping the race pure was mentioned by him in the "Bienenzeitung." This called Dzierzon's attention to this bee, and a few years later, having had some correspondence with an Italian lady beekeeper living at Mira, near Venice, he requested her, in 1853, to send him a colony of those bees. It was then that the first success was achieved in the breeding of Italian queens, as Dzierzon, in the following autumn announced, at an Apiarian Convention in Vienna, that he had succeeded in rearing some 30 queens, fecundated by Italian drones.

There was great doubt expressed concerning the possibility of these bees degenerating in colder climates. There was also quite a discussion as to whether the race was positively pure in its native country. In the first volume of the American Bee Journal, January, 1861, George Klein states that black bees had been found by Deuss, in Nizza. But Nizza is no other than Nice, and is located in France. Those of our readers who have preserved the May, 1916, number of the American Bee Journal will find on page 159 a letter from Mr. Oreggia, a beekeeper of Liguria, explaining how the bees are slightly mixed along the narrow border of the Riviera, confined between the mountains and the sea. The bees of

Nice are black and the change from blacks to Italians is gradual from Ospedaletti to Genoa. North of these mountains the bees are pure Italian, as they are in the entire peninsula, owing to the sea and the snow-covered mountains which form the frontiers of Italy, except in very narrow valleys.

After 4 years of cultivation of the Italian bees, Dzierzon wrote: "This race of bees is still industrious, as beautiful and as docile, as it was the first season. Nay, in several of my colonies, as the result of careful breeding, it is even handsomer; because all the workers have now precisely the same color and markings. The queens are, for the most part, also brighter colored than the one I procured from Italy, as I invariably use the brood of the handsomest and most fertile queens for multiplying." He was evidently already following the methods of our breeders, who usually select the brightest queens for breeders. It is well, provided we do not neglect the other qualities which ought to be the first considered.

The first Italian bees that reached this continent alive were imported, from Dzierzon's apiary, in Germany, by Mr. Samuel Wagner, himself of German descent, in association with Richard Colvin, of Baltimore, in 1859. In 1860, S. P. Parsons, of Flushing, N. Y., imported the first Italian bees direct from Italy. These were imported in full colonies. Wm. G. Rose and Mr. Colvin a little later made additional importations from Dzierzon's apiary, and so did Mr. Langstroth in 1863 and 1864.

Adam Grimm, of Wisconsin, was the first man to import largely from Italy direct, or rather from Italian Switzerland. In 1867, he went to his birthplace in Germany, visited Mr. Dathe, an expert in the cultivation of Italian bees, at Eystrup, near Hanover. He had brought with him a couple of nuclei hives of American-

bred Italians, which when compared with the German-bred Italians were found to be equally beautiful.

In his letters to the American Bee Journal, published in that year, he narrates how, in traveling from Germany, through Switzerland, to Italian Switzerland, he passed through a region in which no bees could live. He wrote:

"I may remark here that while crossing the St. Bernard, I made constant inquiry about bees, and found the last of the black race at Zising. A stage of 4 hours brought us to Splugen, where I was told there were no bees, the climate being too cold and rough for them. After another stage of 4 hours we reached the summit of the road across the Alps at this pass, and saw a peak elevated only about 300 feet higher, covered with perpetual snow. Vegetation was sparse at the foot of the mountain and along the roadsides; and I am well convinced that no swarm of bees ever voluntarily passed across this mountain chain. After a brief detention on the highest point, we began to descend, and in 5 hours reached Bellinzona, situated about 3 miles from Lake Maggiore."

His purchase of bees was made from Professor Mona, a noted writer on bees and extensive beekeeper, at that time, of Italian Switzerland. Grimm's letters from there confirm the fact already known that the Italian bees in their native country are not so bright in color as the foreign-bred. He wrote:

"On my remarking that the darker queens would be pronounced impure in Germany, Professor Mona and Mr. Uhle, a German from Hanover, laughed and said the yellow queens were the exception, the darker ones having the normal hue. . . . In Germany, however, the brighter queens are preferred, though Mona himself was of the impression that these are really not so hardy or long-lived as

the darker. When I observed that some German apiarists alleged that the Italian bees are not altogether pure, even in their native land, but that, there, too, black bees were occasionally found, he offered to carry me around among the neighboring farmers in a circuit of several leagues, and promised to give me a dozen queens if I succeeded in finding a single living black bee in all their stock. I accepted the offer, rather from curiosity than from any expectation of success. Between 9 o'clock in the morning and 10 o'clock in the evening we visited a number of apiaries and examined the bees, without detecting the least variation in color or finding a single black bee."

One hundred Italian queens were brought over at that time, by Grimm. Five years later, Chas. Dadant made a special trip to Italy for the same purpose. He failed in bringing more than 20 queens alive. But he there learned the essentials of transportation. In 1874 he secured some 400 queens from Giuseppe Fiorini, of Monselice, near Venice. Thereafter importations were regularly made by himself, A. I. Root and numerous others.

Honey proved less healthy, as food in transit, than sugar syrup or candy, although the light grades were not injurious. The dark honeys almost always caused diarrhea in the bees in transit. Very young bees did not prove as hardy as the active field bees, though the younger bees among the latter are best. Low temperatures, below 60 degrees F., in spring or fall, caused many a package of bees to die from chill. Lack of air is also a stumbling block, when bees are confined for a week in one spot in mail sacks. To import bees safely, there ought to be interoceanic regulations directing them to be kept in some special repository, as live animals.

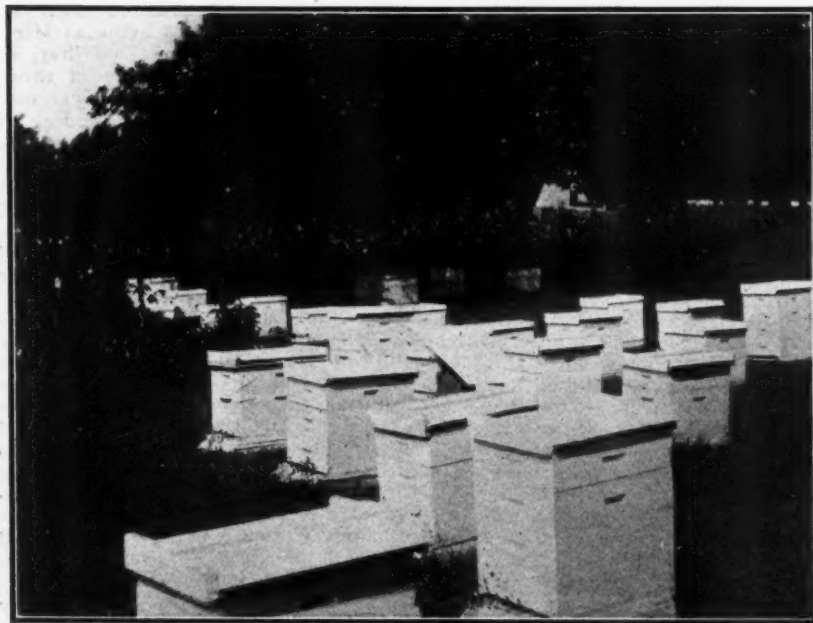
Water, which some people assert is indispensable to bees in summer, is entirely unnecessary unless they have brood, or unless the food supplied is too dry, such as hard candy or dry sugar. Pollen is decidedly injurious, especially if floating in the honey supplied for transit, as it loads their abdomens unnecessarily.

Although the Italian bee is now very common in the United States, it will be advisable to continue importations, in order to renovate our stock and maintain in our bees the high qualities of the original Italian bees.

Another Short-Food Christmas

By Mary G. Philips

MERRY Christmas! What visions and memories that greeting immediately brings up! Different memories for each of us, to be sure, and yet with a golden thread of similarity running through the fabric of the dream of our past American Christmases that makes our hearts warm whenever we hear the familiar words, "Merry Christmas!" We all have in common, of course, the marvelous Christmas



Colonies in the open of same strength average about one more super than those in the shade. Apiary of Chas Macklin, Morrison, Ill.

odors—the smell of Christmas trees and greens lining the streets outdoors, and the spicy smells one catches in whiffs wherever a house door is opened. For weeks before the festival those fragrant indoor odors of gingerbread, fruit cake, mince meat and cookies are apt to be met with upon entering any friend's house, and they always cause a little happy lift of spirit because they mean that Christmas is coming. Then there is the atmosphere of secrecy and tissue paper permeating everything for at least a month before the great day, and the last minute shopping in a good-natured, shoving, jolly crowd, and the carrying of parcels, all glorious in ribbons and holly, and the trimming of the Christmas tree, speaking in subdued voices so that the children will not waken, and the filling of the stockings, and the last weary, but joyous "Good night! It's almost Christmas Day now!" And then, as if one hadn't had happiness enough in getting ready, comes Christmas Day itself!

The early morning service is very solemn and beautiful, and as the old hymn rings out "Hark! The Herald Angels Sing!" you thrill with thankfulness for the Baby born in the manger. Service over, you hurry home through the crisp air, wondering how mother is managing without you, and whether Aunt Sue, who is bound to be early, has come yet with her four boys. They have, and are soon followed by the proud parents of the newest baby in the family, and all the other aunts and uncles and cousins, until the house is full of happy chatter. But the crowning moment is when mother, all flushed from making the gravy which she will trust to no one else, announces, "Dinner is ready, folks!"

With shining eyes, the children beam at the table, trying to take in all that it holds—turkey, baked ham, mashed potatoes, sweet potatoes, stewed tomatoes, boiled onions, oyster sauce, several kinds of jellies and preserves, celery, cold slaw, mince pie, plum pudding, raisins, nuts and—that's all! It's enough, isn't it? Even the boys of the family are filled for once in their lives, and sit around feeling uncomfortable for part of the afternoon when the big folks have settled to cigars and pipes, embroidery and knitting.

But these were the Christmases of long ago, before the war, when we never dreamed of war, and famine and pestilence could stalk over our earth and lay it waste. This, another short-food Christmas, must of necessity, be a very different celebration, and yet we must keep the bright, joyous Christmas spirit there. We can do it—the French have drunk the very dregs of suffering in the last four years, and yet they took each new war hardship with a marvelous buoyancy of spirit, a contagious gayety that changed it into a joyous adventure. With the same high spirit—in spite of the absence of our boys abroad, in spite of a shrunken family circle, in spite of the lessened family pocket-book, let us play the

game for all that it is worth, and celebrate Christmas joyfully! During the past year we have given, and given and given, not only for the Liberty Loans and the Red Cross and the Y. M. C. A., but for the many relief funds to help our stricken allies, so that we have nothing left for Christmas presents! That is as it should be, and you should be proud to say to your friends, "All I have above my bare living expenses has gone to help the great cause, so let us not exchange gifts this year." Anyone who gives a Christmas gift to any but children or the needy this short-food Christmas is a **shameful slacker!** We women have been far more guilty in the matter of useless Christmas giving than the men, and it is generally the women who decide about the exchange of presents. It is to be hoped that having learned the lesson of giving to those in need, will never revert to the barbarous custom of making Cousin Nan a jewel case because last Christmas she embroidered you a traveling case—the fact that she has no jewels, and that you never travel having no connection with the choice of gifts.

As for the Christmas dinner, let us keep the family reunion by all means, remembering to invite as many soldiers as can squeeze around the table, even though an elbow or two may be poked into Uncle Amos's portly sides. And then then let us not spoil the day by serving a dinner that we would be ashamed to have Mr. Hoover see us eating. Turkey is good, but suppose you live where game is plenty and there is a gun in the family? Shall you eat turkey, or let someone else have it who cannot get game? Venison steak, when well cooked, is delicious. It needs at least three minutes longer cooking than beefsteak, but is generally preferred rather rare. Roasted rabbit is very good, stuffed with a dressing of salt pork, minced onion, and bread crumbs seasoned with pepper and salt. The body is sewed up and covered with a few thin slices of pork to supply the fat lacking in rabbit. Roast one hour, making a gravy with the liquid from the pan. Wild birds are roasted in the same manner as chicken, but all lack fat, so need basting frequently to keep them from drying out.

The vegetables for the Christmas dinner this year should, of course, all come from the home garden, or if that is not possible, then from the country near. Every time anyone living in Maine uses California raisins, or Louisiana pecans, freight space has been used unnecessarily. The ideal Christmas desserts are mince pie and plum pudding, and fortunately both may be had without hurting our Hooverized food conscience. The pie crust should, of course, be made of other flours than wheat, a mixture of corn flour and barley being specially good with mince meat. Here is a recipe for mince meat endorsed by the Food Administration:

Green Tomato Mince Meat

2 quarts green tomatoes.
1½ cups sorghum or honey.

1 pound seeded raisins.
¼ cup citron.
1½ pounds chopped apples.
¾ cup chopped suet.
1 tablespoon salt.
1 cup cider vinegar.
2 teaspoons cinnamon.
1 teaspoon cloves.
1 teaspoon nutmeg.

Chop tomatoes or run through meat grinder, using coarse blades, and drain off juice. Cover with cold water and let come to a boil. Scald for half an hour and then drain thoroughly. Repeat until the tomatoes have been boiled three times. Add all ingredients except spices, stir well together and cook until thick. When cold add spices and stir thoroughly. Heat and seal in glass jars.

The plum pudding made every year in one Ohio family, long before we thought of food conservation, is, however, made from a recipe which would meet with Mr. Hoover's approval, particularly if barley or corn flour be substituted for the white flour given.

Aunt Annie's Plum Pudding

One pound each of raisins, currants, flour, sugar, chopped suet, grated bread crumbs and grated carrots. Spices added to taste. Mix dry grated bread crumbs and grated carrots. Put into bowls, tying cloth over the top. Immerse in boiling water and boil at least 8 hours. (This is best made on ironing day, if a coal range is used, so that fuel need not be wasted.)

For little Christmas cakes, the following are good and do not use one bit of flour, unless honey be used as the sweetening, then a little of some kind of flour will be found necessary to hold them together:

Cocoanut Macaroons

½ cup of oatmeal.
½ cup of cocoanut.
Whites of two eggs well beaten.
Pinch of salt.
1 cup of sugar.

These should be stiff, dropped from a spoon in small bits the size of a walnut and cooked about ten minutes in a hot oven.

Washington, D. C.

Ivy Poisoning Again

Soon after replying to "Missouri" about a supposed case of "Rus" or "Ivy" poisoning I had four successive cases, and tried a new remedy which acted like magic in all, the worst case, on back of hands and forearms, terminating favorably in three days.

One case involved half the side of the head, including an eye; yet the patient was free of pain and swelling in 55 hours.

The formula: Tincture iodine (N. S. P.) 3 drams. Tincture camphor (new formula U. S. P.) 3½ ounces. Mix and apply hourly.

DR. BONNEY.

Buck Grove, Iowa.

BEEKEEPERS BY THE WAY



Geo. Schmidt of Crystal City, Texas.

From the West Texas Desert

On the banks of the Nueces river, not far from the little town of Crystal City, Texas, lives George Schmidt, one of the most successful beekeepers of that region. Schmidt lives all alone in his little house on the river bank. On each side of the house is a well-kept apiary. The one shown in the picture has no natural shade, and an artificial one is provided. The other one is in the shade of trees growing along the river bank. The ventilated honey house, situated between the two apiaries was shown in the November number of this journal.

At the time of the writer's visit, the drought had been so severe and so long continued that the cactus and much of the tree flora had died, yet Schmidt had secured sufficient honey to keep his bees in good condition, with a small amount of surplus. He is a rare combination of naturalist and beekeeper, with a wonderful fund of information concerning the natural history of the region in which he lives. Not a house is in sight of his apiary, except his own, and the country roundabout is still in the wild. A day with him is one full of interest and long to be remembered.

BEE-KEEPING FOR WOMEN

Conducted by Miss EMMA M. WILSON, Marengo, Ill.

Moths

I bought a swarm of bees in May. Yesterday I looked at them and they are alive with worms; some of those worms are two inches long. Why did these bees let anything like that live in there? I cannot find any queen. Do you think this swarm was sent me without a queen? I am sending now for one.

I have read my beebook and also read everything in your paper, but cannot see where anything so awful as this has happened anywhere. Have Dr. Miller answer me by mail, and if there is any charge let me know. If I get a queen will she see to it that those terrible worms get out? I killed a moth miller in the upper super, I do not think I have more

than a quart of bees. If I have enough honey will they pull through the winter? I will also send you a sample of the mess they have made, and one of those worms. I am a new hand at this, so anything you can tell me will be very much appreciated.

When I get the queen shall I put her right in the middle section, right on the comb? MRS. J. EATON.

A beginner in beekeeping who sees the ravages that can be made by the beemoth when it has things mostly or altogether its own way, is likely to think that the moth is entirely responsible for the trouble, and that there would be no trouble if there were some way of keeping the moth away. If one utterly without experience were for the first time to see

the carcass of a dead cow being devoured by birds of prey, and then by maggots, such a one might say, "too bad that the crows and maggots have ruined that fine animal," while all the while something else has caused the death, and the crows and the maggots have only come in as scavengers to clean up and make the air at least a little less offensive.

It is somewhat the same way with the beemoth. When you have a strong colony in good condition there is hardly more fear it will be destroyed by the beemoth than there is that a vigorous animal will be destroyed by crows. But let a colony become queenless or weakened in any way, so that it can no longer defend itself, and the moth will take possession and your fine combs will become a mass of webs. There is, indeed, this difference between the crows and the beemoth, the latter does not wait for the death of the colony, but in most places it is on hand at all times ready to attack wherever it can. Indeed it seems rather mysterious how it can gain entrance even into strong colonies, for it is a common thing for those who work for section honey, especially with certain kinds of bees, to find some sections more or less wormy after being off the hive and kept in a warm place for two or three weeks.

Yet a strong colony of Italian bees may be considered capable of taking care of itself, all the harm the beemoth can do it being a negligible quantity. That word "Italian" is used advisedly, for Italians are much better at fighting away the moth than are blacks.

Plainly, then, from what has been said, the remedy against the beemoth is to have all colonies strong and of Italian blood. A queenless colony is a thing especially to be avoided, both because it is likely to become weak and because queenless bees are likely to become so discouraged as not to defend themselves vigorously.

Although no attention need be paid to strong colonies of good Italian blood, yet the beekeeper may render some aid to colonies where the "worms" have made some headway. The "worm," as the larva of the beemoth is quite commonly called, builds itself a silken gallery on the surface of the comb or cappings, where it is difficult for the bees to get at it. Take a pin or a small wire nail, and dig a hole in this gallery at one end. Now dig a hole into the other end, which may be three inches or more away. The worm is likely to be somewhere between these two points. Beginning at one of them, tear open the gallery as you go, driving the worm ahead of your nail point, and when it comes to the hole at the other end it will come out of that hole, when it will be at your mercy, and you make take vengeance upon it in any way that may suit your fancy.

If a comb that is not in the care of bees becomes troubled with worms, the larger ones may be

treated in the way just indicated. A quicker way is to have gasoline in a little oil can such as is used for a sewing machine, and squirt a little of the gasoline upon the culprit. Either of these ways, however, is rather slow and pokey, and it is better to do a wholesale business by submitting the comb to the fumes of carbon disulfide or burning sulfur. The former has the advantage that it kills the eggs as well as the larvæ.

Replying to your question directly, you will now understand that it was probably because of weakness and lack of vigor that the bees allowed the moth to lay its eggs in the hive, and its larvæ to live upon the combs.

It is not very likely the bees were without a queen when you received them, else the colony would hardly have continued from spring until late September. Indeed, it is not altogether certain they are queenless now, for it is not always easy to find a queen, especially for one of little experience.

Introducing a queen will not be very effective in overcoming the trouble, as it is too far advanced. Indeed, if the bees have been queenless long enough they are so old as to be of little value, and a queen would be practically wasted on them.

Although it may be a bit heartless and discouraging to give such advice, if the colony is as weak as it is likely to be to allow the worms to make such progress as is shown in the sample of comb sent, the best thing may be to let them go, and start anew next spring. Of course, if you have other colonies, you may unite these bees with another colony, but even so, such old bees are of little value. It is doubtful that the quart of bees left will pull through the winter, no matter how much honey they have.

It would be interesting if one could know how the colony became so weak, which is almost the same as saying how they became queenless, but that is a matter of guessing. One way would be that the colony swarmed or superseded its queen, and that the young queen was lost on her wedding trip.

If you should think it best to get a queen for these bees, you will do well to follow the instructions for introducing that will come with the queen, which will probably instruct you to put the eggs into the brood-chamber. Of course no other queen must be present, of which there is little fear.

the day. Mother was not feeling well, and I had decided to take some honey out of a vicious gum under a plum tree in the front yard. I smoked them with tobacco sprinkled over a bunch of old rags and rolled up about the size of a rolling pin. I got the cap off, but no honey, for they ran everything off the place except the chickens, and we did not return until night.

I left home at the age of 18 and the bees died for want of attention.

My father gave a man \$10 to move them out of the yard so he would feel safe in sitting on the front porch. I have 20 colonies in cypress hives up to date all golden Italians. A storm on August 6 served us badly; blew 300 houses off blocks. We live in the cut-over pine timber of northwest Louisiana. We had no spring flow, but the goldenrod and aster is fine.

I think we have a fine country for bees. I am a conductor on the Gulf Coast lines and have a great deal of time at home, and my wife likes to work with the bees; also hives all swarms when I am out on the road.

E. C. KING,

De Quincy, La.

Obituary

We regret to announce the death of one of New York State's leading beekeepers, Arthur H. Root, of Canastota, N. Y. Mr. Root was 68 years old and the youngest of a family of eight. He was a brother of L. C. Root, the son-in-law of Moses Quinby, men who have made their mark in the bee world. The family is in no way related with the Roots of Ohio.

Mr. Root died of pneumonia, probably following an attack of the influenza, which has made so many victims throughout the world in the past few months.

Not a Substitute

As sugar is not plentiful here, we thought it might be well to fill the hives for winter with watermelon; but things are not always what they seem.

In the first place, there is comparatively little juice in a melon. We expected there was a great amount, but got about two quarts from a large melon that would sell at about the same price as a pound of honey. We were also surprised to find that the juice possessed very scant sweetness. Evaporated to the consistency of honey, there would be about one-tenth part left; while sorghum juice is but half as watery. Sorghum juice evaporated by the bees will make better winter stores than when it has been on the fire. If it can be secured at a price one-fifth that of molasses it will pay to feed the juice.

Just what would be the value of beet or maple juice is beyond our schooling, and how the bees would stand either for stores is a question. There is no doubt, however, but that much feeding can always be avoided by uniting. LEE ELLIS KERR.

Ft. Smith, Ark.

(We warn beekeepers against the use of either grape juice, melon juice, or sorghum juice as bee feed. These

MISCELLANEOUS NEWS ITEMS

Wisconsin Association

The annual convention of the Wisconsin State Beekeepers' Association will be held at Madison, State Capitol, Senate Chamber, on December 5 and 6, 1918. Wisconsin beekeepers who are not members of the State Association or of a local not affiliated with the State, will not receive programs except on request to the Secretary. Address the Secretary, EDWARD HASSINGER, JR. R. 4, Hortonville, Wis.

Skin Irritation

By A. F. Bonney

In the October American Bee Journal "Colorado" complains of a skin irritation whenever he scrapes sections, and asks Dr. Miller for a remedy. The good doctor confesses ignorance, and suggests that "Colorado" may have to quit beekeeping.

The writer has been much troubled with eczema of late years and has had to do a great deal of reading on skin diseases, and it is astonishing how prevalent eczema is. It may lie dormant for years, only to flare up in the presence of an unusual irritant, as an acid, an alkali, propolis, or excessive heat. As bad a case as I ever saw followed a slight burn, and the person had it for years, for eczema is practically incurable.

I do not think "Colorado" need quit beekeeping, and I think, also, that he has eczema. He may write me and I'll try to help him. He may pay me with a chunk of moss agate, uncut.

We can prevent and palliate, if we cannot cure eczema, and here I shall deal only with prevention, as follows: Protect the skin. One may wear rubber gloves, but these are expensive. The next thing that suggests itself is glycerine of starch, which any druggist will make, for the price. In "Colorado's" case I suggest that 10 per cent of boric or 2½ per cent of carbolic acid be added. Apply freely before going to work.

If the irritation is restricted to small areas of skin, use flexible colloidion, which may be had at drug stores. This coats the skin with a yielding, airtight protection. It is the "New Skin" so largely advertised and sold.

After the day's work is done, scrub the hands with soap and hot water, wipe nearly dry, then coat well with carbolized vaseline.

Buck Grove Iowa.

Robbing the Old-Time Bee Gum

My grandfather, one of the first settlers of Texas, was one of the old-time honey producers, and I was always ready to help him, when a small boy, to hive or rob the bees, as we called it, sometimes using a sulphur match to kill the real bad ones before making an attempt to open the old box hive by knocking a board off the top of the box, which we called the cap, then cut the honey out.

I remember an instance of a neighbor with seven children walking a mile across plowed ground to spend

substitutes for good honey or pure sugar syrup might do to incite breeding, in the spring, when bees are not confined to the hive. But we know positively that the juice of any fruit is quite injurious, when the bees are confined to the hive for any length of time. Sorghum juice might be the least offensive. Mr. Kerr lives in a locality where bees are but little confined, hence his possible success.—Editor.)

Another Fabre Book

J. Henri Fabre, who died not long since, is generally regarded as the greatest naturalist of his time. His greatest literary work is his "Souvenirs Entomologiques," on which he spent twenty-eight years of his life. This work, originally published in French in ten volumes, is now appearing in English, one or two books being translated each year. Many nature lovers eagerly await the appearance of each new Fabre volume in the English translation.

"The Life of the Grasshopper" is the latest in this series to reach our desk. This volume includes the various essays by the author on the grasshoppers, crickets, cicadas, mantis, etc.

In the chapter on the hunting of the mantis, is a fascinating account of the way in which the crab spider captures the honeybee on the blossoms which she visits in search of nectar. Several pages are devoted to the details of capture, killing of the captive and the final disposition of the carcass.

Like all of Fabre's books, this one displays a wonderful insight into the habits of the insects which he describes and it is well worth a place in the library of every nature lover. The book is published by Dodd, Mead & Co., of New York, at \$1.60, but can be ordered through this office if desired.

Candy for Late Winter Feeding

"Some of my colonies are short of honey in the brood-combs for winter. I would like to have a receipt for making candy. Is there a way to make it in sheets for insertion in the brood-frames for feeding them through the winter? This information would be interesting to me and other green beekeepers.

H. E. C., Manchester, N. H.

The receipt for making candy is given in most of the bee books. It may be found at paragraph 611 of the "Hive and Honey Bee" and at paragraph 194 of "First Lessons." As the receipt is short and simple, we will give it here:

Heat about 4 parts of sugar with one part of water and boil it until thick enough. Stir constantly so that it will not burn. To know when it is thick enough, dip your finger first into cold water, then into the syrup. If what adheres is brittle to the teeth, it is boiled enough. Put into shallow pans of proper size. Some people use thin tissue paper under the cakes. Others use very light muslin and make the cakes thin enough to slip down between the frames.

When bees are short of food as late

as December, a very good way is to put the hives down in a cool, dry cellar and place sheets of this candy over the top of the frames, in a shallow super, above the cluster, so the bees may get to the candy without leaving the brood-chamber. We have often seen a comparatively weak colony winter thus, and it is quite interesting to go down into the cellar with a flash light, lift up the cap carefully and noiselessly and see the bees gathered around the sugar, in a quiet cluster. It does not require over 6 or 7 pounds of this candy to bring them to the days of spring. After that they must be fed with more watery food, for they need water to breed, and candy is insufficient. Even colonies in box hives may be fed in this way by inverting in the cellar and placing candy on the end of the combs.

Loss of Bees by Diarrhea—Introduction of Queens

Last winter and spring we lost 47 colonies by diarrhea, from November to May. We would be glad to have advice on the treatment of the disease.

We bought and introduced several queens in the past 4 years and lost some until we tried the following plan: Catch the old queen and rub her all over the cage containing the young queen before introducing the latter. Then put the cage between two combs and let her alone 4 days. You will then find that the bees have released her and that she is laying.

J. M., Speers' Ferry, Va.

Answer.—As a rule, diarrhea is caused by a poor quality of winter food. It is easier prevented than cured. Perhaps your bees had honeydew or fruit juices, and were confined to the hives a long time by bad weather. When any such stores are in the hives, it is necessary to extract the bad food and feed either good honey or sugar syrup, 2 or 2½ parts sugar to 1 of water. Located where you are, south of the 37th degree of latitude, if you place your colonies in a well-sheltered spot, facing south, and have good food in the hives, you will not find any diarrhea.

Your method of introducing queens is similar to that given by Dr. Miller in May, 1917, page 158, which consists in putting the old queen in the cage for an hour or two previous to putting the young queen into it. But your method has the advantage that it is not necessary to remove the new queen from the cage in which you have received her, letting the bees release her by eating the candy at the end of the cage.—Editor.

Swarm in a City Street

While on their 500-mile walk from Los Angeles, Calif., to San Francisco, Calif. Jim Beatty and Joe Haberstock, known in vaudeville as the "Happy Hikers," walking song-writers, snapped the accompanying photo in San Jose, Calif.

The swarm of bees on the radiator of this automobile, caused quite a little excitement and amusement.

The lobby of a picture theater nearby was so attractive to Mrs. "Queen Bee" that after studying the face of her favorite screen hero, she majestically settled herself on the dome of the ticket office and, naturally enough, thousands of her tiny followers were soon buzzing, humming and singing to the ragtime time ground out on the mechanical piano within.

But the "swarm" proved too friendly to suit the pretty cashier, who finally was forced to flee from the office. Business was suspended until the "Queen" took a notion for an automobile ride and landed on the radiator of the machine shown in the photo. The owner is trying to collect the bees in the box.

Bees Quickly Locate Selves

The most remarkable instance of bees locating themselves occurred with me only a short time ago. To be accurate it was the last week of September. A friend of mine sold a ranch on which he reared mostly cattle and goats. On this ranch he had eight colonies of black bees. Having sold the ranch and all belonging to it except the bees, he offered to sell them to me. They were in old hives of the standard movable frame variety, badly warped and



Swarm takes possession of an automobile.

practically rotten, leaking bees badly. I bought the bees for \$1.25 per hive, and after looking them over for moving, concluded that I had made a bad bargain, yet since I lost over 700 stands of bees during the year and winter of 1917, due directly to the drought here, I was glad to get the bees and make an effort to move them. I loaded them just at night-fall and took them home at night so that if the hives leaked I would not lose any of the bees, for they were very weak, having not more than three frames of bees to the hive. It was 18 miles to my home. I loaded them into my trailer and started home at dark. Two hours later I was at home. Bees were crawling over the hives and wagon. I ran the wagon into my back yard and left them there till morning. Just a little after sun up next morning I placed them and opened them. They immediately came out and began to fly around the front of the hives. Ninety minutes later, to my great amazement, these bees were working like veterans, having thoroughly located themselves, from all appearances, and were actually carrying in pollen at the rate of sixty bees to the minute. I have moved bees many times but never saw such quick location in my life, and I have kept bees a long time.

These bees have done remarkably well since I moved them. They are very strong in numbers and gathering very much honey. I am sure that they will winter well, for they are now in wintering condition; yet, when I bought them, they would not average ten pounds of honey to the hive, due to their bad location. I will make them rear queen-cells next spring, and after raising a batch of cells they will get a first-class Italian queen and will soon change their color from mourning to khaki.

T. P. ROBINSON.

Bartlett, Tex.

"Honeybee" Vs. "Mother Bee" Nomenclature

I have read with interest article on page 301 of your September issue, by Robert Sparks Walker, editor of the Southern Fruit Grower, and some very apt comments of your own.

Brother Walker seems to fear the bogie of monarchy in the name of "Queen." While I agree with him in the relative merits of the two forms of government, I am not able to get his point of view that, because one is less desirable, all words used in connection with it are necessarily so, and should be eliminated.

To carry his thought to a logical conclusion, a whole lot of Holy Writ would have to be re-written; he would refuse to play "king-pins"; and goodness knows what he would call a "kingfisher." The "kingbird," I agree, is in bad repute with beekeepers.

The following quotation of Shakespeare (born 1564, died 1616) is of interest. It is from "King Henry V." and was probably written about the time that "Butler, the English naturalist, discovered that 'she' was really a female":

"For so work the honeybees;
Creatures that, by a rule in nature,
teach

The act of order to a peopled kingdom.

They have a King, and officers of sorts;

Where some, like magistrates, correct at home,

Others, like merchants, venture trade abroad;

Others, like soldiers, armed in their stings,

Make boot upon the summer's velvet buds;

Which pillage they with merry march bring home

To the tent-royal of their emperor,
Who, busied in His majesty, surveys

The busy masons building roofs of gold;

The civil citizens kneading up the honey;

The poor mechanic porters crowding in

Their heavy burdens at his narrow gate;

The sad-eyed justice, with his surly hum,

Deliv'ring o'er to executors pale
The lazy, yawning drone."

A. A. GARDINER.

Quebec.

Double Covers Dipped in Tar

Our picture shows a double cover made by J. A. Simmons, of Sabinal, Texas. To protect these covers from the weather, Mr. Simmons dips them in a mixture of coal tar and pitch. There is a very general idea that hives should be painted white to avoid overheating in summer. Sabinal is located in the semi-arid section of west Texas, where the weather gets extremely hot, yet Mr. Simmons does not find any objection to the black covers on this account. In the Fifth Annual Report of The Iowa Bee Inspector, Allen Latham, of Connecticut, has a paper on the subject of black as a color for hives. He contends that black is a better color than white for this purpose.

Beekeeping in Santo Domingo

Another letter from H. Brenner.

At the end of June, I made a trip to our apiaries on the north coast, in Mantanzas and Cabrerias. The first apiary is too far from the mountains and the bees did not do well, because they have no protection from the sea breezes, when they come home loaded with nectar. In this apiary I have to be contented with honey coming from the bushes and trees along the coast. The flow lasts from February till the end of April.

In Cabrerias, the hills are near the sea and the honey-flow is continuous. In this apiary the bees filled everything with honey and brood, even to the space below the frames, and every colony swarmed except those that had supers or young queens. This apiary in Cabrerias is on Dr. Maldonado's estate named "Diamante." It is an ideal location. The bees get their honey from the hills and the sea shore, but they are protected from the strong breezes by numerous trees and bushes that form a windbreak. But we are unable to extract from these apiaries because we have no outfit nor bee-houses.

We are making increase and hope that the war will soon end so we may get material from the States. At Sanchez we have 165 colonies, 100 with supers of worked-out foundation. More supers are needed. I extracted last week 2½ barrels of honey. But, brother beekeepers, you have no idea of the difficulties we have to meet. The barrels leaked. We had to remove the honey twice from one of them. Imagine how I felt when I opened the door of the honey room in the morning and saw the floor covered with honey. The helpers we have are not used to water. They do not think it necessary to wash anything. They see no use in washing an extractor or honey



J. A. Simmons of Sabinal and his double covers.

receptacles. One has to teach them everything. They are quite good-natured, but if you want them to work in a hurry, they show you a different face. We hope we may be able to change this before long, by getting our help from Porto Rico and the United States.

We are making our supers from discarded gasoline boxes, but the frames and wire nails we must secure from abroad. In the Arinosa apiary the honey needs extracting but there is no house ready, for want of lumber and of a carpenter. The honey comes in abundantly, and we have foundation, but no frames. So we must extract to make room and relieve the pressure.

Our reward will come by and by, when we may be able to get everything in shape.

In the Sanchez apiary, I strengthened a colony in December to such an extent that it gave me a super full in January. I am sending samples of honey to the American Bee Journal, as well as to Friend LeSturgeon, of San Antonio, and to Mr. Youngblood, of College Station, Texas.

Even if we were able to extract all the honey at present, we are not allowed to ship it. So our crop cannot be sold unless we are willing to close it out to an English company that is paying only about half price for it.

I have found several abnormal conditions which I propose to mention in a future letter. I wish I had a few brother beekeepers here to discuss those matters with them.

H. BRENNER,

Sanchez, Republica Dominicana,
July 7, 1918.

(This letter was held back in the hope of being able to give a critical opinion of Friend Brenner's San Domingo honey. But whether the censor tasted it himself and concluded to keep it, or whether it was fed to the fishes by some of the subs of our good friends, the Huns, we have not yet received it.—Editor.)

A New Way to Make Candy for Shipping Queens

I am sending you two mailing cages full of a bee candy of our own special making. It is most fit for mailing cages as well as for feeding colonies. I dare say no other candy can be compared with it. See how fine the paste is. If you grind it between your fingers you will find no granulation at all. The sugar is quite incorporated into the honey and forms with it an homogeneous mass. It is composed exclusively of sugar and honey. It may appear rather hard at first, but if you strike it a little with the tip of the finger it will soon become soft and moist. Moreover, its sterilization is quite guaranteed, since, to make it, it is necessary to reach the temperature of 244 degrees F. I found this way of making candy 3 years ago, and wish to show it to you.

Take 2 pounds of sugar and put into a stew-pan with half a quart of water. Put the stew-pan on a gas burner and stir till the sugar is dissolved. Make the liquid boil gently till a thermometer steeped in it

marks 234 degrees F., when you must pour into the pan half a pound of rather warm honey. If you wish to have the paste a little softer, add a little more honey. Let the liquid boil again without stirring till the thermometer is up to 244 degrees F., when the stew-pan is taken off the gas burner and left unmoved till the thermometer is down to 113 degrees F. Then take a wooden spatula and stir up the liquid (in the same direction) till it is transformed into a straw-colored thick paste that pre-

vents any more stirring. The next day the candy is run through a common machine for mincing meat and so brought to perfection.

ENRICO PENNA,
Bologna, Italy.

(Our readers will remember that Mr. Penna is the expert Italian queen breeder whose apiaries were visited by the editor in 1913, and of whom mention is made in the issue for January, 1915, of the American Bee Journal.—Editor.)

DR. MILLER'S



ANSWERS-

Send Questions either to the office of the American Bee Journal or direct to
Dr. C. C. MILLER, MARENGO, IL.
He does NOT answer bee-keeping questions by mail.

Moving in Cold Weather

I am going to move about 150 miles about the first of December and want to ship a few colonies of bees. They are in new 10-frame hives with full sheets of foundation and wired frames. How is the best way to fix them for shipping, and is it all right to ship them in cold weather?

KANSAS.

ANSWER—In the limited space allowed here it is not possible to give the fullest instruction for shipping bees in hives. A very important thing is that they be not allowed to be shunted about in the car. One way with a few colonies is to nail onto the floor of the car 1-inch strips on each side of a hive. Place the hive so that the frames run parallel with the railroad track. They will probably go all right in cold weather, although there is some danger of combs breaking in the severest weather.

Distance Bees Fly

1. How far will bees go for the honey crop?
2. Will bees that are hived in June from a swarm found out on a tree and put in a common box be likely to swarm this year?
3. How am I to tell the kind of bees I have? They are a brown bee, with black heads; they seem to be a fine lot of workers.
4. I robbed them this past week, but only found one full comb. The others were partly filled and full of young bees. I took in all about 6 pounds of comb honey, and left an equal amount in the hive. Do you think it will be necessary for me to feed them all winter?

N. MEXICO.

ANSWERS—1. Under great stress they have been known to go 5 miles or more, but for profitable work they probably do not go more than 2 miles, and some think not more than a mile and a half.

2. No; although it is possible they may.

3. If there is no yellow on them they are probably the common black bee, sometimes called German brown, or black bees.

4. If you have taken 6 pounds of honey and left only an equal amount, they certainly need feeding. They should have at least 30 pounds, and in your climate 40 would be better.

Foulbrood

In the treatment for brood diseases we are advised to sterilize hives, covers, bottoms, etc. But what about the bee itself? It seems to me that the bacillus could remain in the stomach of the bee or on its feet or body. I have treated hundreds of cases of disease and know what is necessary to effect a cure. But the above has never been clear to me. OHIO.

ANSWER—It is true that some advise to sterilize hives, covers and bottoms, but others do not consider it necessary to sterilize either of these. Bees do carry the disease in their sacs or stomachs, but the treatment you use makes them use up any diseased honey before

they have brood to feed. They are so neat in their toilet that any germs are probably kept cleaned off their bodies.

Wintering

I have a number of colonies and do not know where it would be best to winter them. Up-stairs it would be impossible, and in the cellar it is too damp. I am planning on building a beehouse suitable for 30 or 40 colonies. State in the Journal which would be the best plan in building it to keep the temperature just right.

WISCONSIN.

ANSWER—It would hardly be advisable for you to try to winter in a building above ground. I would rather risk the damp cellar, putting a stove in it to overcome the cold and dampness.

Supers for Sections—Italians

1. Please let me know what size hives and what kind of super you use for the production of comb honey.
2. Do you use a shallow extracting frame on each side of the super?
3. What kind of Italians do you have, leather colored or goldens?

KENTUCKY.

ANSWER—1. I use 8-frame dovetailed hives, because I have them; but if I were beginning over again I would likely have larger hives. I use T supers.

2. I don't use extracting-combs in section-supers, but it is likely a good plan.

3. My bees are mostly 3-banded, leather-colored, although I have some hybrids.

Carbon—Stings

In destroying beemoth and eggs, how is carbon disulfide to be used?

I have discovered that swelling from beesting can almost entirely be prevented by pressing out the poison and painting with what the physicians call "sealer"—a liquid court-plaster.

INDIANA.

ANSWER—Carbon disulfide may be used on dry combs or combs containing honey, but not on combs containing brood. Pile up the supers containing the combs, and you will be more sure of success if you do this inside of some building, or else outside when there is no wind. Also it is well to make a thin dough with clay and water, to putty up the cracks between one super and another. Put an empty super on top of the pile, and in this set a saucer, into which you will pour 3 or more tablespoonfuls of the liquid, closing over the cover quickly, and leaving it closed for 24 hours. Don't have any fire or light near if you don't want to be blown up.

Pressing out the poison should be helpful, and if you get it all out the "sealer" ought hardly to be necessary. But unless you have some special way of operating will you not squeeze as much poison in as out?

Extractors

What Extractors will take four shallow extracting frames $5\frac{3}{4}$ inches deep. Will a two-frame Cowan take four shallow frames $5\frac{3}{4}$?

WASHINGTON.

ANSWER.—The Cowan extractor with pockets 12×16 will take four shallow frames $5\frac{3}{4}$ inches deep, outside measure. Also the Novice, with pockets of the same size.

Winter Cases

Is Bartlett's winter packing case, such as shown on page 780 of the edition of 1917, of "A B C — X Y Z of Bee Culture," a good packing case for my location. It gets down pretty well below zero here, so I will want something warm. Last year I did not pack them at all and lost three out of twelve. It wasn't so bad in accordance with the other losses about here. There was one man lost 6 out of 7, another all he had, and the rest in proportion.

PENNSYLVANIA.

ANSWER.—I think you might expect good results from using Bartlett's packing case.

Alsike Clover

1. About how many colonies would you advise to keep for a 50-acre field of alsike clover, provided the weather, etc., were suitable, and a good stand of clover, there being no other honey plants in the vicinity?

2. Is alsike clover the best yielder of all the clovers? How is the quality?

ILLINOIS.

ANSWERS.—1. Just exactly how many colonies of bees would be required to keep 50 acres of alsike cleaned up is a secret that I'm afraid will never be found out. It might be 100 colonies, and it might be two or three times as many. It might be something different from either guess. Even if we know the exact number, it might not be advisable to have that number without considering something about what the bees could do before and after the blooming of alsike.

2. I don't know whether alsike or sweet clover takes the lead as a honey-yielder. Alsike honey is of best quality.

Goldens

1. Have you ever given those Golden Italian bees a fair test in your apiary with your 3-banded Italians for section comb honey? Read what Doolittle and O. O. Poppleton say about those Goldens for section comb honey. They say they get very much better results from those bees than any others. Also, Mr. John M. Davis, of Spring Hill, Tenn., says that he can't find any difference in wintering or honey gathering qualities of the Goldens compared with his 3-banded Italians, and he has Moore's long-tongue bees. Our State Inspector for Tennessee says he thinks this is just a notion of the people, as his Goldens are fine, and so do others. I have tried both plans of putting on the supers—both beeway and plain sections—and I get 100 per cent better results to put the empty supers on top when tiering up, and sometimes I have as many as 2 to 5 supers on hive at once, and my locality is very poor for bees, too. So I am requeening some of my black colonies of bees with Ben G. Davis's Golden Italians and some with Curd Walker's 3-banded Italians, and I want to see next year, if the season is good, if the Goldens come out winners in wintering and honey gathering. As Doolittle says, they are best of all for comb honey. Well, I had one colony of Goldens about 25 years ago and they were the best workers I ever saw in all my 30 years of work among my bees. I would like for some of the leading apiarists who run for comb honey to give their experience with the Goldens for comb honey through the American Bee Journal.

I would like for Mr. J. W. Lawrence, of Rustburg, Va., Route No. 3, to give his experience with the Goldens. Will you please ask him to send in his report at once. I see he says in Ben G. Davis's advertisement that he got 320 pounds of comb honey the first season.

TENNESSEE.

ANSWER.—I gave the Goldens the same chance as other colonies, if you call that a fair test. Yet, while I gave a fair test to the colonies I had, I cannot say that I gave a fair test to Goldens as a whole, for I had only a few of them, and one cannot always judge

many by the few. My own opinion of Goldens is rather from the testimony of others than from my own experience. It looks as if there were Goldens and Goldens, some good, some poor. While you quote those who praise them, a larger number might be quoted who do not.

You say Doolittle says Goldens are best of all for comb honey. Do you so understand from what he says in Gleanings for 1914, page 9, which you quote? He there says: "If I were producing comb honey altogether, I would procure a good queen of the golden variety, rearing all queens from her, and allow them to mate with any drones they might chance to meet, the most of which, without doubt, would be from an entirely different blood from themselves, which would give a direct cross. Such direct cross always gives the greatest vigor, and in reference to your question as regards the best bees for comb honey I should not care one cent whether the young queens from such a mother mated with drones from black or hybrid stock, as all my experience goes to prove that thoroughbred Golden Italians, mated to drones from black or hybrid mothers, give bees equal to the very best for comb-honey production." That certainly does not teach that he thought Goldens the best of all for comb honey, but does teach that he thought the right kind of hybrids as good as, if not better than, Goldens.

No matter what however may be the general opinion, if you can get better results with Goldens than with others, then Goldens are best for you.

If I understand you correctly, you get 100 per cent better results when tiering up section-supers by putting the empty supers on top than putting them under the others. If you can get even 10 per cent better results, then putting empties on top is the way for you. In my locality I get good results by putting the second super under, when a good flow is on, later putting an empty both above and below, and toward the close of the flow putting the empty on top.

Winter Entrance

If I put on winter case with entrance not even with entrance in hive, say hive entrance faces east, and I put entrance of case to south, with passage way to entrance, will the bees find this readily, and will it be O. K.?

ILLINOIS.

ANSWER.—I know nothing about it from experience, but should judge that such would depend upon the amount of opening. If the parts are so open, for instance, that the light entering the entrance to the case at the south can be seen at the entrance to the hive at the east, there should be little or no trouble. On the other hand, if it should be that no light from the south can be seen at the east entrance of the hive, there might be trouble, the bees being slower to fly on a warm day, or failing to fly altogether.

Illinois State Beekeepers' Association

The eighteenth annual meeting of the Illinois State Beekeepers' Association will be held in the Sun Parlor of the Leland Hotel, in Springfield, on the 17th and 18th of December, next.

Mr. Morley Pettit, of Ontario, Can., will be with us; also Hon. N. E. France, of Platteville, Wis.; F. Eric Millen, State Apiarist of Iowa, and C. P. Dadant, Editor of the American Bee Journal.

With all these prominent men present we feel that we are assured of a good meeting.

Programs will be sent out to our 400 bee members before the date of the meeting.

Fellow members of the Association, remember the value of our published report depends upon what is done and spoken at this and the Chicago Conventions.

JAS. A. STONE, Sec.

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CLASSIFIED DEPARTMENT.

Advertisements in this department will be inserted at 15 cents per line, with no discounts of any kind. Notices here cannot be less than two lines. If wanted in this department, you must say so when ordering.

BEEES AND QUEENS

GOLDEN QUEENS that produce Golden workers of the brightest kind. I will challenge the world on my Golden and their honey-getting qualities. Price, \$1 each; tested, \$2; breeders, \$5 and \$10.
 2Atf J. B. Brockwell, Barnetts, Va.

QUEENS—Bees by parcel post and we pay the postage. Will ship Italian bees this year from our own yards; they are hustlers. A few pounds of honey next year at 25 to 30c per pound will pay for your packages of bees. We shipped thousands of pounds last season. We are booking orders now, one-fourth down, balance at shipping time. We are going to winter 1,000 young tested queens reared in October, so can ship tested queens as early as you want them.

One 1-pound package bees, prepaid.....\$2.90
 One 2-pound package bees, prepaid..... 5.00
 One 3-pound package bees, prepaid..... 7.00
 Select untested queens\$1.50 each
 Tested queens 2.50 each
 Select tested 3.00 each
 10 per cent discount on orders amounting to 25 packages or more. Add price of queen wanted when ordering packages of bees. Breeders, \$5 and \$10. Send for Free Circular giving details. Reference: The Guaranty State Bank, Robstown, Tex., or the City Nat. Bank, Corpus Christi, Tex.
 Nueces County Apiaries, Calallen, Tex.

WANTED—Am in the market for 20 to 30 colonies of Italian bees. State what you have, and price. Box 202, Socorro, N. Mex.

FOR SALE—Good second-hand 60-lb. cans, 2 to the case, at 50 cents per case in lots of 50; will exchange for honey.
 E. B. Rosa, Monroe, Wis.

NO MORE QUEENS this season. Root's beekeepers' supplies.
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GOLDENS that are true to name. Untested queens, \$1; 6, \$5; 12, \$9; 50, \$35; 100, \$67.50.
 Garden City Apiaries,
 San Jose, Calif.

THREE-BANDED ITALIANS ONLY—Untested queens, each \$1; 6, \$5; 12, \$9; 50, \$35; 100, \$67.50.
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 The Willows, San Jose, Calif.

BEEES AND QUEENS from my New Jersey apiary.
 J. H. M. Cook,
 1Atf 84 Cortland St., New York City.

FOR SALE—Pure 3-banded Italian queens, as good as you can buy with money, from June 1 to September 1.
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QUEENS—H. D. Murry's strain of 3-banded Italians; reared by the Doolittle method. Prices untested, 1 for \$1, 6 for \$5, 12 for \$9. No disease. Safe arrival and satisfaction guaranteed.
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 Route 4, Honey Grove, Texas.

FOR SALE—Colonies of extra fine strain Italian bees, with select tested queens, in new 1-story 8-frame single wall-hives, standard full-depth, self-spaced Hoffman frames, \$10 each, f. o. b. here. The bees are free from disease.
 Wilmer Clarke, Earlville, Madison Co., N.Y.

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WANTED—Comb, extracted honey, and beeswax
 R. A. Burnett & Co.,
 6A12t 173 S. Water St., Chicago, Ill

FOR SALE—Clover, heartsease, extracted 25c per lb., 60-lb. cans.
 W. A. Lathaw Co., Carlisle, Ind.

WE are in the market for honey and beeswax. Send best price on comb honey and sample of extracted honey. State quantities you have, also style, size and weight of package or section.
 Charles Israel Bros. Co., Inc.,
 486-490 Canal St., New York.

WANTED—Shipments of old comb and cappings for rendering. We pay the highest cash and trade prices, charging but 5c a pound for wax rendered. The Fred W. Muth Co.,
 204 Walnut St., Cincinnati, Ohio.

WANTED—White or light amber extracted honey in any quantity. Kindly send sample, tell how your honey is packed and your lowest cash price; also buy beeswax.
 E. B. Rosa, Monroe, Wis.

FOR SALE—About 3,000 pounds basswood and 1,500 pounds clover extracted honey in new 60-lb. cans, two cans in box, for 25 cents a pound, cash.
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 South Sioux City, Nebr.

FOR SALE—50,000-lb. carload extracted alfalfa-sweet clover honey, subject to best cash offer f. o. b. Delta, Colo.
 Gale H. Patterson, Delta, Colo.

WANTED

WANTED—Experienced bee man; salary and percentage of net profits, to begin work in December. Students' Bee and Honey Co.,
 1431 Josephine St., Berkeley, Cal.

WANTED—Your old combs, cappings or slumgum to render into beeswax by our high steam pressure wax presses.
 Dadant & Sons, Hamilton, Ill.

TRY AN ADD in this department to sell that good equipment which you no longer need. Our want ads do the business.

CASH for extracted honey, white and amber, in 10-pound cans.
 Thomas Lang,
 1572 N. Halsted St., Chicago, Ill.

WANTED—Samples of honey from the different plants for our office collection. We will pay for the honey and send a parcel post can for mailing. Samples to be of value should be from one kind of flowers only and unmixed with honey from other sources, as nearly as possible. A pint will be sufficient for each kind, but we wish to secure samples of the same kind of honey from several widely separated localities.
 American Bee Journal, Hamilton, Ill.

FOR SALE

FOR SALE—20 ten-frame Danz hives with full depth supers, with combs; 50 comb-honey supers with sections and foundation; 10 lbs. Dadant thin surplus foundation; queen excluders, drone traps; 200 bottom boards and covers. Also some 8-frame extracting supers with combs. Chester E. Keister, Clarno, Wis.

FOR SALE—Copies of American Bee Journal, 1902 to date, 25 cents each, post paid.
 M. D. Smith, Preston, Iowa.

FOR SALE—Several tons clover and buckwheat honey, well ripened; 60-lb. cans 2 to case.
 H. F. Williams, Romulus, N. Y.

FOR SALE—Cowan extractor and knife; neither used; first \$10 takes both.
 Chris Smith, Glenwood, Mo.

FOR SALE—Choice buckwheat honey in new 60-pound cans.
 O. W. Bedell,
 Earlville, N. Y.

FOR SALE—Barnes saw, two-frame extractor, hives and extracting supers, new; at a bargain; cash or honey.
 Liberty Press,
 Shenandoah, Iowa.

FOR SALE—No. 1 white extracted honey in No. 10 pails weighing 10 pounds gross; \$3 per pail f. o. b. here.
 B. F. Smith, Jr., Fromberg, Mont.

FOR SALE—Hershiser wax press; used one season; first \$20 takes it.
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 American Bee Journal, Hamilton, Ill.

FOR SALE—40,000-lb. car of white extracted clover-alfalfa honey; state best offer, f. o. b. Hardin, Mont., in first letter. Sample if wanted.
 S. F. Lawrence, Hardin, Mont.

FOR SALE—Cedar or pine dovetailed hives; also full line of supplies, including Dadant's foundation. Write for catalog.
 A. E. Burdick, Sunnyside, Wash.

FOR SALE—40 stands hybrid bees, with at least 50 lbs. honey in each; hives are Langstroth simplicity, 10-frame; want \$7.50 each. Never had disease in this locality. Will sell one stand or all.
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MISCELLANEOUS

SONG—"The Plea of the Bee," or "The Honeybee Doing Its Bit." Words by Anna Hosea; music by Barclay Walker. Sent to any address on receipt of 15 cents.
 The Cutting Publishing Co.,
 910 Merchants Bank Bldg., Indianapolis, Ind.



One member in a family is not enough

EVERY man and woman in the country, not in khaki or navy blue, should answer "present" to the Red Cross Christmas Roll Call the week of Dec. 16-23.

A message of good cheer will be sent overseas this coming Christmas Eve, to hearten our fighting boys and our Allies.

That message must be complete—there must be no room for doubt that we stand behind

them—it must bear the word that there is *Universal Membership* in the Red Cross—their *Red Cross*.

Let us make our second Christmas at war a Red Cross Christmas—with full membership in every American home.

All you need is a Heart and a Dollar

RED CROSS CHRISTMAS ROLL CALL

[December 16-23]



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United States Gov't Comm.
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*This space contributed for the Winning of the War by
The Publishers of This Journal*

Crop Report and Market Condition

Compiled by M. G. Dadant

Since our last report, the report of the bureau of crop estimators has come out. They estimate the average production per colony for 1918 at 37 pounds per colony, whereas, in 1917 it was 36 pounds per colony, showing that the crop is about the same as last year, with a much greater demand except for foreign markets, which have been cut down by the lack of available shipping space. There is little likelihood of any great change here for some time to come, or until this crop is all sold.

As stated last month, most of the honey is out of the hands of the producers, very little being offered for sale otherwise than through commission men and retailers.

The price ranges about as before, from 19 to 23 cents for amber and from 22 to 25 cents for white in car lots.

Demand for Bees

It appears that there is already a great demand for bees in packages for next year. Some breeders state that they already have all the orders they can fill, so that it appears certain that increase will be maintained at least through next season. Opinions of experts are that prices of food stuffs are not apt to decline for a year or two, owing to the enormous quantity of such commodities required to revitalize European countries.

Relaxation in the sugar restrictions may have some effect on the demand for honey, but hardly enough to affect the demand for honey of this year's crop.

The report of the Bureau of Markets follows:

UNITED STATES DEPARTMENT OF AGRICULTURE Bureau of Markets

Honey arrivals since last report:

Medina, O.—11,720 lbs from Ohio, 60,030 lbs. from Utah, 58,000 from New York.

Hamilton, Ill.—No carlot arrivals.

Keokuk, Iowa—No carlot arrivals.

Shipping Point Information

San Francisco, Calif., Oct. 31.—Demand and movement moderate. Cash to producers at country loading points: Extracted per lb., water white supply very light, 22-23½c; sage white, supplies moderate, 20-22½c; light amber, supplies light, 18-20½c; dark amber 18-19c. Beeswax: supplies moderate, 35-37½c.

Los Angeles.—Receipts very light. Demand moderate, movement limited, little change in prices. Extracted, per lb.: light amber, alfalfa

and sage, 21-22c, mostly 21½c; white sage and orange, too few sales to establish market, asking 23c. Beeswax, 34-36c.

Unofficial Shipping Point Information

Caldwell, Idaho, Oct. 31—188,000 lbs. shipped. Demand moderate, little change in prices. Carloads f. o. b. cash track: extracted, alfalfa, white, 60-lb. tins, 22-23c lb.; comb, fancy, \$5.50 per case; No. 2, 5.25-5.35; No. 3, \$5.

Telegraphic Reports From Import-ant Markets

(In many markets in the honey trade the term "jobber" is commonly applied to the original receiver who buys direct from the grower in carlot quantities. However in these reports we use the term "wholesale carlot receiver" to designate the carlot purchaser, while the term "jobber" refers to the dealer who buys in less than carlot quantities from the carlot receiver and who sells direct to retailers. The prices quoted in this report, unless otherwise stated, represents the prices at which the "wholesale carlot receivers" sell to the "jobbers.")

Note: Arrivals include receipts during preceding two weeks. Prices represent current quotations.

Chicago—1 Colorado, approximately 200 crates by freight from Michigan, 100 crates from Ohio arrived. Supplies light. Demand and movement brisk, prices slightly higher. Sales to jobbers: Colorados, Ohios and Iowas, extracted, per lb., white, 24-27c; amber, 23-25c; comb, No. 1, 29-32c per lb. Beeswax: no sales reported.

Denver—Approximately 1,800 cases white comb, 70,000 lbs. extracted arrived. Demand and movement good; little change in prices. Sales to jobbers: Colorado, white comb, 24-section cases, No. 1, \$6.30; No. 2, \$5.85; extracted, white, mostly 25c lb. Beeswax: cash to producers, 35c lb.

Kansas City—1 Colorado arrived. Supplies light. Demand and movement moderate. Quality and condition generally good. Sales to jobbers: Missouri, comb, section cases, No. 1, \$8.50; Colorado, No. 1, \$7-7.25; No. 2, \$6.50-6.75; extracted, per lb., light amber, 27c; amber, 25-26c. Beeswax: no sales reported.

Cincinnati—2 Nevada arrived. L. C. L. and nearby receipts light. Good inquiry, market firm; movement slow on account of high prices; few sales. Sales to jobbers: Extracted, per lb., alfalfa and sweet clover 29c; amber, small lots, 29c. Comb, 24-section cases, No. 1 white, \$7-7.25. Beeswax: Demand light, market firm; average yellow, 40-42c lb.

Minneapolis—No carlot arrivals. No cars on track. Supplies moderate. Demand and movement good; little change in prices. Sales to jobbers: Colorado, quality and condi-

tion good; comb, 24-section cases, white fancy, \$7-7.25. Extracted: no supplies on market.

St. Paul—No carlot arrivals; no cars on track. Demand and movement good; prices slightly higher. Colorados, quality and condition good. Comb, 24-section cases, \$7.50-7.75.

Spokane—1 Idaho arrived, 1 car Idaho due, express receipts liberal. Demand and movement active. Sales direct to retailers: White comb, 24-section glass front cases; No. 1, \$7.25; No. 2, \$7. Extracted, per lb., light amber, alfalfa and clover, 27-30c, according to quality. Sales to jobbers: Idaho, extracted in 100-case lots, white alfalfa, 26-27c per lb.; Yakima Valley, light amber and alfalfa, quality and condition fine, 27½c per pound.

Philadelphia—276 cases containing 10 gallons each of extracted from New York, 150 from Vermont, 2 barrels from Florida, 883 24-section cases comb from Vermont, 296 from New York, 8 from New Jersey, 24 from Virginia, 46 from Pennsylvania arrived. Few sales to manufacturers. Extracted, per gallon, Porto Rico, \$2.40; New York comb, dark amber, 22-23c per lb.

St. Louis—Supplies very light. Demand and movement good. Sales to jobbers: Extracted, per lb., Southern, barrels, amber, 25-26c; cans, 26-28c. Comb: No supplies on market. Beeswax, 41c lb.

New York—279 barrels and 25 tierces from Porto Rica arrived, 149 bags beeswax from Porto Rica arrived. Receipts moderate. Demand and movement good. Market firm. Sales to jobbers: Porto Rica, extracted, per gallon, \$2.25-2.40; California, light amber, \$3.00-3.25; Southern extracted, per lb., 18-25c; buckwheat, comb, 24-29c. Beeswax: Demand and movement good; market firm; yellow, 38-45c per lb.

This is Jubilee Day, and so I am sending you a sprig of sweet clover plucked the 11th day of November, 1918. This looks good for a crop next year. We have had fine rains this fall and everything looks fine here. Democracy is assured for the world; let the Lord be praised.

Yours in the work,

R. A. MORGAN.

Vermillion, S. D., Nov. 11, 1918.

Many thanks for the letter. It is certainly wonderful to have blossoms of sweet clover on November 11, in South Dakota. That gives the lie to the old saw, that the Dakotas have only two seasons—winter and the 4th of July.

Yes, the 11th of November will remain as an international Jubilee, and the finest part of it is that it will be as much of a jubilee for the Central Empires, which will have become republics. We will certainly celebrate it regularly.—Editor.

Announcements

As we go to press we are advised by Secretary Bull that the Chicago Northwestern Convention is postponed on account of the influenza.

Committee Chairman T. R. Gorton requests us to announce that a meeting of the beekeepers of Chenango County, New York, will be held at Norwich on December 14 to effect a permanent organization.

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WANTED—1,000 mink, muskrat and weasel skins; will pay highest prices to get them. I grade furs as follows:

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Mink, dark.....	\$12.00	\$9.50	\$8.50	\$5.00
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Unprime or damaged furs according to value. Prices and grading guaranteed. Send me a trial shipment by parcel post and you will ship again.

A. H. Bentz,
Granton, Wis.

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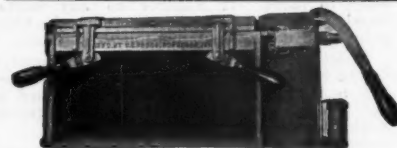
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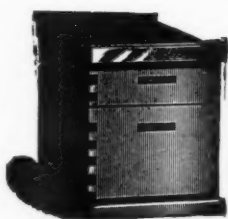
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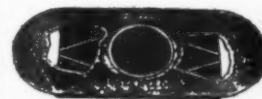
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